

APPLICATIONS FOR ADMISSION AND FOR TRANSFER

The Constitution provides that the Board of Direction shall elect or reject all applicants for *Admission* or for *Transfer*, and, in order to determine justly the eligibility of each candidate, the Board must depend largely upon the Membership for information.

This list is issued to members in every grade for the purpose of securing all such available information, and every member is urged to scan carefully each monthly list of candidates and to furnish the Board with data in regard to any applicant which may aid in determining his eligibility. It is the *Duty* of all *Members* to the *Profession* to assist the Board in this manner.

It is especially urged, in communications concerning applicants, that errors in the record be pointed out and a *Definite Recommendation as to the Proper Grading in Each Case* be given, inasmuch as the grading must be based upon the opinions of those who know the applicant personally, as well as upon the nature and extent of his professional experience. If facts exist derogatory to the personal character or to the professional reputation of an applicant, they should be promptly communicated to the Board. *Communications Relating to Applicants are considered by the Board as Strictly Confidential.*

The Board of Direction will not consider the applications herein contained from residents of North America until the expiration of thirty (30) days, and from non-residents of North America until the expiration of ninety (90) days from March 1, 1928.

MINIMUM REQUIREMENTS FOR ADMISSION

Grade	General Requirement	Age	Length of Active Practice	Responsible charge of work
Member	Qualified to design as well as to direct work	32 years	12 years*	5 years
Associate Member	Qualified to direct work	25 years	8 years*	1 year
Junior	Qualified for sub-professional work	18 years†	4 years*	
Affiliate	Qualified by scientific acquirements or practical experience to co-operate with engineers			
Fellow	Contributor to the permanent funds of the Society			

* Graduation from a school of engineering of recognized reputation is equivalent to 4 years' active practice.

† Membership ceases at age of 32 unless transferred to higher grade.

LIST OF APPLICANTS.

Names and Addresses of Applicants for Admission and for Transfer on this Preliminary List, Arranged Alphabetically.

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The fact that applicants give the names of certain members as references does not necessarily mean that such members endorse.

The number in the center above each record indicates the serial number of the applicant for the current year, and that at the left the district in which he resides.

The abbreviations in *italics* represent, respectively, *TT*, Total Time; *SP*, Sub-Professional Work; *P*, Professional Work; *RC*, Responsible Charge; *D*, Design. The figures showing the amount of time spent in Responsible Charge and on Design are the estimate of the Applicant. The allowance of four years for graduation and of one-half of a year for each academic year successfully completed in an engineering college without graduation is included in Total Time and Sub-Professional Work.

FOR ADMISSION

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(1) ADAMS, CHARLES MELVIN, Care, Obras Publicas, Santo Domingo, Dominican Republic. (Age 67. Born Prattsburg, N. Y.) 1881 to 1885 Chainman, Rodman and Instrumentman on railroad work. *TT 3: SP 3.* 1885 to 1888 Div. Engr., C. K. & N. R. R. (Chicago, Rock Island & Pacific), in charge of four 12-mile sections of construction in Kansas. *TT 2.5: P 2.5: RC 2.5.* 1888 to 1891 on surveys and construction, in charge of several small railroad construction works. *TT 3: P 3: RC 1.5.* Jan. 1892 to Jan. 1895, Jan. 1900 to Jan. 1901 and Jan. 1918 to Jan. 1924 City Engr., Bellingham, Wash., on paving, sewers, bridges, water-works, etc., from Jan. 1892 to Jan. 1895 also acted as Supt. of streets and water. *TT 10: P 10: RC 10: D 10.* Jan. 1895 to Jan. 1897, Jan. 1901 to Jan. 1905 and Jan. 1918 to Jan. 1917 County Engr., Whatcom County, Wash., on design and construction of concrete pavements, bridges, river protection, land drainage, etc. *TT 10: P 10: RC 10: D 10.* 1898 to 1899 Constr. Engr., in charge of section of extension, Canadian Pacific Ry., Kettle River Dist., mountain work. *TT 1.5: P 1.5: RC 1.5.* Jan. 1905 to Jan. 1913 Deputy County Engr., Whatcom County (4 years) and in private practice, surveys, railroad and state highway locations, etc. *TT 8: P 8: RC 8: D 4.* Jan. 1927 to date Municipal Engr. for Dominican Govt., in direct charge of installation of water supply system, storm and sanitary sewers, street paving of Capital City (estimated cost \$3 000 000), also Consultant for similar projects. *TT 1: P 1: RC 1: D 1.* *TT 39: SP 3: P 36: RC 34.5: D 25.* Refers to J. W. Beardsley, N. M. Collier, J. L. Crider, J. J. Donovan, C. N. Reitze, G. S. Rinehart, J. L. Stannard.

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(1) ALTMANN, PAUL FREDERICK AUGUST, 715 East 243d St., New York City. (Age 23. Born New York City.) 1926 B. S. in C. E., Harvard Eng. School. *TT 4: SP 4.* Nov. 1926 to May 1927 Field Engr., The Texas Co., giving lines and grades for construction, and supervising work. *TT 0.6: SP 0.4: P 0.2: RC 0.2.* June to Oct. 1926 and July 1927 to date Supervisor of construction with New York Telephone Co., first 2 months in telephone school, then supervising construction of pole lines, maintaining pole lines and plant, and supervising cable placing in new buildings. *TT 0.9: P 0.9: RC 0.7.* *TT 5.5: SP 4.4: P 1.1: RC 0.9.* Refers to H. J. Hughes, L. J. Johnson, G. F. Swain.

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(12) ANDERSON, OSCAR AUGUST, 1407 North Cedar St., Tacoma, Wash. (Age 33. Born Park City, Utah.) 1922 Completed Civ. Eng. course, American School of Correspondence, Chicago, Ill. Aug. 1916 to Nov. 1918 with Bice & Van Zant, Civ. Engrs., Longmont, Colo., as Rodman, Transitman, Draftsman and Asst. Engr. on surveys, irrigation, paving and sewer construction. *TT 2.2: SP 0.7: P 1.5.* Nov. 1918 to Jan. 1919 Transitman and Rodman, Nicholson Eng. Co., Tacoma, Wash. *TT 0.2: SP 0.2.* Jan. 1919 to Feb. 1923 with City of Tacoma, until May 1919 as Transitman and Draftsman, Light Dept., then Draftsman (3 months) and Senior Engineer, Dept. of Public Works; designed reinforced concrete counterfort retaining wall (31 ft. high, 400 ft. long) and various steel and reinforced concrete structures; surveyed, located and designed Puget Park trunk sewer; had charge of field parties and office work on investigation of trunk sewer (6 miles) with main laterals (about 4 miles), prepared preliminary estimates, tentative designs and plans. *TT 4: SP 0.5: P 3.5: RC 2: D 1.5.* Feb.

1923 to Feb. 1926 Asst. Structural Engr., Cushman Power Project, Tacoma, responsible for design of steel towers for outdoor substations and high tension transmission line; designed towers for North Bay and Henderson Bay transmission line crossings (each about 3 000 ft. long); Narrows transmission line crossing (span 6 240 ft.); made preliminary estimates and studies for construction; designed four towers (317 ft. high), concrete footings and cable anchors and special appurtenances for span, and was Res. Engr. in charge of erection of towers and stringing and raising six high-strength plow-steel cables (diameter $1\frac{1}{4}$ in.) across tidal strait (nearly 1 mile wide), supervised installation of special insulator assemblies on cables. *TT 3: P 3: RC 3.* Feb. 1926 to date Structural Engr., Dept. of Public Works, Tacoma, until Nov. 1927 in charge of design and construction of Proctor St. Bridge (62 ft. wide, one 170-ft. and two 113-ft. arch spans 48-ft. roadway carrying double-track electric railway); since Nov. 1927 in charge of preliminary investigation and report on proposed municipal dock and freight terminal, and at present preparing proposed plan of development, including tentative designs and estimates, also preliminary plans and estimates for 320-ft. span movable steel bridge. *TT 2.1: P 2.1: RC 2.1. TT 11.5: SP 10.4: P 10.1: RC 7.1: D 1.5.* Refers to V. Gongwer, W. A. Kunigk, W. J. Roberts, J. L. Stannard, B. E. Torpen.

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(1) **ASHTON, FRED DOUGLASS**, Puerto Cabezas, Nicaragua. (Age 27. Born Paterson, N. J.) Student (evenings) in Civ. Eng., etc., Columbia Univ. Extension, New York City (1923 to 1925) and in layout, design and construction for water supply and sewage disposal projects, Polytechnic Inst. (1925 to 1926). July 1917 to June 1919 Rodman with Wm. Ferguson's Son, Engr. and Surveyor, Paterson, N. J. *TT 1.9: SP 1.9.* June 1919 to Oct. 1920 Transltman, New Jersey Highway Dept. *TT 1.3: SP 1.3.* Oct. 1920 to April 1926 Asst. Engr. and Chf. of Party for Wm. Ferguson's Son, on land development, topographical work, design, estimate and construction of water-works, sewers, bridges, dams, roads, railroads, curb and gutters; autumn 1925 (3 months, on leave) Engr. for development and construction of Roosevelt Park, Tenafly, N. J. *TT 5.5: SP 1: P 4.5: RC 5.5: D 5.5.* April 1926 to May 1927 Field Engr., United Fruit Co., Colombia, in charge of location and construction of irrigation ditches through banana plantations, design and construction of trestles, flumes, concrete headgates and structures, exploration, surveying, drainage investigations. *TT 1.1: P 1.1: RC 1.1: D 1.1.* Sept. 1927 to date Field Engr., Bragmans Bluff Lumber Co., Nicaragua, on relocation of railroad (84 km.), location and construction of tramways, including design and construction of trestles, topographical work for construction and layout of new water supply. *TT 0.5: P 0.5: RC 0.5: D 0.3. TT 10.3: SP 4.2: P 6.1: RC 6.1: D 6.9.* Refers to G. Ferguson, J. W. Ferguson, H. J. Harder, F. J. Wright. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

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(11) **BARNES, STEPHENSON BARTON**, 7600 Willoughby Ave., Los Angeles, Cal. (Age 27. Born Omaha, Nebr.) 1921 B. S. in C. E., Purdue Univ. *TT 4: SP 4.* Nov. 1921 to Jan. 1925 with City of Los Angeles, Cal., until Jan. 1923 in Harbor Dept., as Structural Draftsman, and (6 months) Asst. Structural Engr. on design and detail of harbor sheds, piers, transportation facilities, etc.; after Jan. 1923 in Bldg. Dept., as Structural Engr. checking design of reinforced concrete and steel frame buildings and (6 months) Asst. Chf. Structural Engr. supervising plan checking and construction inspection. *TT 3.2: SP 0.7: P 2.5: RC 0.8: D 2.5.* Jan. 1925 to date Senior Structural Engr. with Erick & DeLine, Cons. Structural Engrs., on designs and estimates of buildings, etc. *TT 3: P 3: RC 3: D 3. TT 10.2: SP 4.7: P 5.5: RC 3.8: D 5.5.* Refers to R. M. Beanfield, O. G. Bowen, L. A. Elsener, W. T. Haight, H. M. Lukens, A. F. J. Miller.

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(13) **BARNUM, EDMUND KIRBY**, Hunter-Dulin Bldg., San Francisco, Cal. (Age 44. Born St. Paul, Minn.) July 1904 to Feb. 1905 Draftsman, Northern Pacific Ry. Co. *TT 0.6: SP 0.6.* Feb. 1905 to March 1906 Field Engr., Asst. Supt. of Constr. of Hydro-electric plant, and Asst. Supt. of operation, Washington & Oregon Power Co., Walla Walla, Wash. *TT 1: SP 1.* March 1906 to Jan. 1910 with Stone & Webster Engr. Corporation, until Jan. 1908 as Field Engr. and Constr. Supt. on steam and hydro-electric plants at Minneapolis, Minn., then Supt. of water power, and after Jan. 1909 on hydro-electric construction, Hauser Lake Dam, at Helena, Mont. *TT 3.8: SP 2.8: P 1.* Jan. to Dec. 1910 in private practice, at Great Falls, Mont., design of hydro-electric power plant and water supply, Libby, Mont. *TT 0.9: P 0.9.* June 1911 to April 1912 with U. S. Forest Service, Kootenai National Forest, Libby, in charge of astronomical base-line surveys. *TT 0.8: P 0.8.* April 1912 to March 1913 Res. Engr., on construction and design, Nisqually Power Plant, Tacoma, Wash., in responsible charge of construction, contracts and specifications. *TT 1: P 1.* April 1913 to April 1914 City Engr. of Leavenworth, Wash., in charge of water supply, sewer design and construction. *TT 1: P 1.* April 1914 to Jan. 1918 Engr., Great Northern Lumber

Co. and Wenatchee Valley & Northern Ry., on design, location and construction. *TT 3.7: SP 1.7: P 2.* Jan. 1918 to June 1919 with Stone & Webster Eng. Corporation, Seattle, Wash., on design and construction of coal-pulverizing plant. *TT 1.4: SP 1.4: RC 1.4.* June 1919 to Sept. 1921 Engr. on hydro-electric construction, and Sept. 1921 to Feb. 1922 Asst. Valuation Engr., San Joaquin Light & Power Corporation, Fresno, Cal. *TT 2.7: P 2.7: RC 2.7.* Feb. 1921 to Nov. 1926 Chf. Engr., Fresno City Water Corporation, in charge of design, construction, operation, contracts and specifications. *TT 4.8: P 4.8: RC 4.8: D 4.8.* Nov. 1926 to date Vice-Pres. and Chf. Engr., California Water Service Co., San Francisco, Cal., in charge of design, construction and operation; also Cons. Engr., Oregon & Washington Water Service Co., Portland, Ore. *TT 1.3: P 1.3: RC 1.3: D 1.3.* *TT 23.2: SP 7.6: P 15.6: RC 10.2: D 6.1.* Refers to R. E. Andrews, J. S. Bates, C. T. Chenery, R. H. Corey, A. W. Cuddeback, L. A. Elsener, E. W. Enderlein, H. K. Fox, D. S. Hays, C. Johnson, C. I. Rhodes, G. L. Swendsen, F. M. Thebo, L. O. Wolcott.

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(3) **BENWAY, PERCY LEROY**, 16 Lenox Ave., Albany, N. Y. (Age 38. Born Corinth, N. Y.) 1913 C. E., Syracuse Univ. *TT 4: SP 4.* 1913 to April 1923 on work of minor importance. April 1923 to date with Gen. Elec. Co., detailing, checking and designing steel and masonry mill buildings, plain and reinforced concrete mill building foundations, steel structures with concrete foundations for electrification projects, transmission and radio towers and switching stations, with foundations, also machine foundations of steel and reinforced concrete for turbo and motor generators, synchronous converters, etc. *TT 4.8: P 4.8: RC 2: D 2.* *TT 8.8: SP 4: P 4.8: RC 2: D 2.* Refers to D. A. Allee, G. S. Hook, L. Mitchell, W. B. Potter, E. G. Semon.

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(1) **BICKEL, JOHN OTTO**, 24 Lenox Ave., Maywood, N. J. (Age 31. Born Niederhasli, Zurich, Switzerland.) 1921 C. E., Federal Tech. Coll., Zurich, Switzerland. *TT 4: SP 4.* April to Sept. 1920 Engr. in office of G. Luscher, Aarau, Switzerland, on reinforced concrete details, studies for small hydro power plants and water-works. July to Dec. 1921 Engr., E. Bosshard & Co., Zurich, on surveys and layout of water-works, design of pumping stations. *TT 0.5: P 0.5.* Feb. to Oct. 1922 Designer, Structural Dept., Gutehoffnungshuette, Sterkrade, Germany, on details and design of buildings, towers for mine hoists, and transmission towers. *TT 0.7: P 0.7: D 0.5.* Nov. 1922 to March 1923 Designer, Bridge Dept., Aug. Kloeene, Dortmund, Germany, static calculations for cranes and bridges, design of lock gates for Barge Canal. *TT 0.4: P 0.4: D 0.4.* Nov. 1923 to date Designer with Waddell & Hardesty, New York City, on details and design of vertical-lift, bascule, and other bridges, including design of mechanical equipment. *TT 4.3: P 4.3: RC 1.7: D 1.7.* *TT 9.9: SP 4: P 5.9: RC 1.7: D 2.6.* Refers to O. H. Ammann, T. E. Brown, Jr., F. De Schuanensee, S. Hardesty, M. G. Littlefield, T. C. Shedd, J. A. L. Waddell.

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(15) **BIRCHARD, HARRY CHAFFEE**, 315½ East Dewey Ave., Sapulpa, Okla. (Age 23. Born Titusville, Pa.) 1926 B. S. in Civ. Eng., Mo. School of Mines. *TT 4: SP 4.* Summer 1924 Jun. Engr., Illinois State Highway, on concrete paving. May 1926 to date Transitman, St. Louis-San Francisco Ry. *TT 1.8: SP 1.8.* *TT 5.8: SP 5.8.* Refers to J. B. Butler, E. G. Harris, C. V. Mann, C. M. Slaymaker.

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(11) **BLACKBURN, DUNCAN ARNOLD MacVICAR**, 2080 North Garfield Ave., Pasadena, Cal. (Age 25. Born Kaslo, B. C., Canada.) Sept. 1920 to March 1924 student, Civ. Eng. course, California Inst. of Technology. *TT 1.5: SP 1.5.* Summers 1920 and 1922 Chainman, Southern California Edison Co., at Big Creek, Cal., running transit, etc. *TT 0.1: SP 0.1.* Summer 1923 Rodman, Southern Pacific R. R. Sept. to Nov. 1924 Topographic Recorder, U. S. Geological Survey. *TT 0.1: SP 0.1.* Nov. 1924 to date with Eng. Dept., Pasadena, Cal., until Dec. 1926 as Chainman, Instrumentman, etc., then Draftsman, 1 month on maps and records, and remainder of time on design of storm drains and culverts in Structural Design Div. *TT 3.2: SP 3.2.* *TT 4.9: SP 4.9.* Refers to W. E. Barney, E. S. Borgquist, F. J. Converse, R. R. Martel, W. W. Michael, F. Thomas.

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(10) **BLACKWELL, FRED GAIUS**, Lock 18, Wetumpka, Ala. (Age 46. Born Fairview, Ill.) 3 years student, C. E. course, Cornell Coll., Mt. Vernon, Iowa. May 1906-March 1911 (except 1907-1908) Rodman and Instrumentman, Chicago, Milwaukee & St. Paul Ry. Co. *TT 3.9: SP 3.9.* April 1911 to July 1917 (except a few months) Asst. Engr. with Chas. P. Chase, Cons. Engr., Clinton, Iowa, on surveys, design and supervision of construction, sanitary sewerage systems, sewage disposal plants, pavements, etc. *TT 6.3: SP 2: P 4.3: RC 4.3: D 2.* Aug. 1917 to March 1926 Chf. of Party, Asst. Engr. and Div. Engr., Miami Conservancy Dist., Dayton, Ohio, 8 months on surveys; 1½ years in charge of alignment and grade

on construction in Dayton, 4 years Asst. Engr. and Div. Engr. on construction of flood protection works in Williamsburg, Franklin and Middletown, Ohio; and remainder of time on special work, checking and plotting right-of-way surveys, etc.; construction work consisted of channel improvement, new channel, levees, retaining walls, concrete revetment, highway and track raising, pavement, storm sewers, flood gate structures, etc. *TT 8.7: P 8.7: RC 6.7.* April 1926 to date Field Office Engr., Dixie Constr. Co., Birmingham, Ala., on large hydro-electric projects at Cherokee Bluff (Martin Dam) and Lock 18 (Jordan Dam) on Tallapoosa and Coosa Rivers, Ala.; in charge of drafting room, construction plant layout, design of bridges, trestles, derrick supports, forms, construction plant and camp buildings, coffer dams, etc. *TT 1.7: P 1.7: RC 1.7: D 1.7. TT 20.7: SP 5.9: P 14.8: RC 12.7: D 3.7.* Refers to C. A. Bock, C. P. Chase, C. H. Elffert, J. H. Kimball, C. H. Paul, L. G. Warren.

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(1) **BLAKEY, OTHMAN FRANK**, Univ. of Western Australia, Crawley, Perth, Western Australia. (Age 30. Born Herberton, North Queensland, Australia.) 1919 B. E. and 1924 M. E., Civ. Eng., Univ. of Queensland. *TT 4: SP 4.* 1921 appointed Hon. Lecturer in reinforced concrete construction, Univ. of Queensland. Sept. 1919 to July 1921 with Expanded Steel Co.'s Agency (British Co.) acting as Designing Engr. for State of Queensland. *TT 1.9: P 1.9: RC 1.9: D 1.9.* July to Dec. 1921 Designer Engr. on proposed extensions to Wyndham Meat Works Co., at Brisbane, Queensland, and Perth, Western Australia. *TT 0.5: P 0.5: D 0.5.* Jan. 1922 to June 1924 Engr. of Constr., on erection of Commonwealth Bank of Australia (£300 000) and Australian Govt. Note & Stamp Printing Bldg. (£100 000), Melbourne. *TT 2.5: P 2.5: RC 2.5.* July 1924 to May 1927 in private consulting practice, at Melbourne, on Temple Court (£265 000), Melbourne and Adelaide Parkway Stations (£275 000 and £85 000), Edmont (£120 000), Royal Exchange (£35 000) and Victoria Insurance (£26 000) Bldgs. Collins Way (£32 000). *TT 2.9: P 2.9: RC 2.9: D 2.9.* May 1927 to date Head, Dept. of Structural Eng., including testing laboratories, Univ. of Western Australia; also in private practice; at present acting as Archt. and Engr. on erection of new premises, Victoria Insurance Co., Perth. *TT 0.7: P 0.7: RC 0.7. TT 12.5: SP 4: P 8.5: RC 8: D 5.3.* Refers to H. Horsfall. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

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(1) **BLAU, HERMAN ADOLPH**, 230 Naples Terrace, New York City. (Age 33. Born Washington, D. C.) 1920 B. S. in C. E., Univ. of Wis. *TT 4: SP 4.* Oct. 1920 to Sept. 1925 Jun. Highway Engr., Illinois Div. of Highways, Dist. No. 9, Carbondale, Ill., until Sept. 1921 earthwork computations, drafting, highway and culvert design and instrument work, then Res. Engr. on highway and highway paving construction, including concrete slab and girder steel through-truss bridge construction on 13 miles; checking plans, staking out work, inspection, measurement, receipt and disposal of materials, excavation, design of grades, alignment and drainage, etc. *TT 4.8: P 4.8: RC 3.8: D 0.5.* Sept. 1925 to April 1926 Structural Draftsman, Board of Transportation Div. of Designs, New York City, on study, preliminary designs and estimates of cost of independent sewerage systems and structural design of East River caisson and airshaft in connection with proposed Sixth Ave. Subway, and design of various steel and concrete subway structures. *TT 0.6: P 0.6: D 0.6.* April 1926 to date with Port of New York Authority, Dept. of Bridges, Constr. Div., New York City, until Aug. 1927 as Instrumentman, acting as Chf. of Party in charge of field work of triangulation for Hudson River Bridge, and (1 year) in charge of staking out, inspection, measurement and triangulation control of River Pier Sec. during construction of substructure of Outerbridge Crossing, Tottenville, N. Y.; since Aug. 1927 Asst. Engr. in charge of field work, measurements, selection of control stations, and baselines of check triangulation system for Hudson River bridge; in charge of layout and field work of reciprocal level system across Hudson River, at Ft. Lee, and for construction of New York towers, anchorage, and approaches of New York Sec. of bridge. *TT 1.8: P 1.8: RC 1.8. TT 11.2: SP 4: P 7.2: RC 5.6: D 1.1.* Refers to W. J. Boucher, R. Hoppen, Jr., A. H. Morrill, C. P. Moss, J. H. Quimby, E. C. Reubsam, L. Schwartz, R. A. Trufant, R. F. Wheadon.

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(8) **BOGARDUS, THEODORE S**, City Hall, Meadville, Pa. (Age 24. Born Guys Mills, Pa.) 1927 B. Sc., Allegheny Coll. 1928 B. S. Mass. Inst. of Tech., at present Asst. City Engr., Meadville, Pa. *TT 4: SP 7.* Refers to J. B. Babcock, 3d, C. M. Spofford.

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(11) **BOYD, GEORGE HOMER**, 512 North Milton Ave., Whittier, Cal. (Age 43. Born LaPorte, Ind.) Feb. 1905 to April 1906 Asst. County Surveyor, La Porte County, Ind., Inspector of construction or reclamation work in Kankakee River Dist., also made preliminary surveys on laterals and main line ditch in Kankakee Dist. *TT 1.2: SP 0.2: P 1.* April 1906 to June 1907 Asst. Supt. of Constr., Thos. Phee Constr. Co., Chicago, Ill. *TT 1.1: P 1.1:*

RC 0.3. June 1907 to Jan. 1909 Vice-Pres., Stockdale Canterbury Co., Contractors Supplies and Brokers, Chicago. **TT 1.5: P 1.5: RC 0.5.** April 1909 to Feb. 1917 Vice-Pres. and Secy., Phee Constr. & Eng. Co., Gen. Contrs. and Engrs, Chicago; 2 years in charge as Gen. Mgr. of office and remainder of time Gen. Supt. of Constr. in field, on viaducts and bridges (\$40 000 to \$266 000, names given in application). **TT 7.8: P 7.8: RC 6.** Feb. 1917 to Feb. 1918 Asst. Supt. of Constr., Donner Steel Co., Buffalo, N. Y. **TT 1: P 1: RC 0.5.** Feb. 1918 to Aug. 1919 Private and 1st Lieut., 23d U. S. Engrs., A. E. F., France. **TT 1.5: P 1.5: RC 1.** Aug. 1919 to May 1921 with Mack International Motor Truck Co., in charge of building work in Los Angeles and San Francisco. **TT 1.3: P 1.3: RC 0.3.** May 1921 to Aug. 1925 Contr., designing and constructing houses, bungalow courts and apartment houses. **TT 4.3: P 4.3: RC 4.3.** Aug. 1925 to Sept. 1926 Mgr., Eng. Dept., Pacific Finance Corporation, Street Bond Dept. **TT 1.1: P 1.1: RC 1.1.** Sept. 1926 to Nov. 1927 Chf. Engr., Pacific Indemnity Co., Los Angeles, Cal. **TT 1.2: P 1.2: RC 1.2.** Jan. 1928 to date Engr., Pacific Clay Products, Los Angeles. **TT 0.2: P 0.2. TT 22.2: SP 0.2: P 22: RC 15.2.** Refers to T. B. Blackburn, F. R. Coates, W. F. Collar, W. H. Collins, J. M. Johnson, C. W. Pierce, P. H. Van Etten.

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(4) BOYS, HARRY LAMONT, 459 South Sycamore St., Wilmington, Del. (Age 25. Born Wilmington, Del.) Feb. 1921 to Sept. 1923 Draftsman, American Bridge Co., at Edge Moor, Del. and Ambridge, Pa., detailing structural steel for buildings and bridges and bridge machinery. **TT 2.5: SP 2.5.** Dec. 1923-Aug. 1924 Draftsman (Detailer), Edge Moor Iron Co., detailing structural steel and machinery for boilers. **TT 0.7: SP 0.7.** Sept. 1924-June 1926 Draftsman, American Bridge Co., Ambridge, detailing and checking structural steel and machinery for movable bridges and turntables. **TT 1.8: SP 1.8.** Dec. 1926 to date Designer, Hercules Powder Co., Wilmington, Del., on buildings, machinery, conveyors, etc. **TT 1.1: SP 1.1: D 1.1. TT 6.1: SP 6.1: D 1.1.** Refers to J. E. Banks, F. L. Dudley, R. G. Manning, E. Mowlds, E. Querbach, G. F. Sparhawk.

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(1) BROWN, NELSON MANNING, 42 Burtis Ave., Oyster Bay, N. Y. (Age 33. Born New York City.) Prof. Engr. and Land Surveyor, New York State. Jan. 1914-June 1916 student, Valparaiso (Ind.) Univ. Oct.-Dec. 1916 Rodman, Illinois Steel Co., Gary, Ind. **TT 0.2: SP 0.2.** Jan. 1917 to Feb. 1918 Asst., Eng. Corps, Pennsylvania R. R., M. of W. Dept., Chicago, Ill., on surveys, plotting, laying out and supervising, side-tracks, small yards, etc. **TT 1.2: SP 1.2.** Feb. 1918 to Sept. 1919 and Nov. 1923 to Feb. 1925 with New York Central R. R., New York City, until Feb. 1919 as Transitman and Inspector, being Acting Chf. of Party, supervising building of a car-repair yard, then Draftsman, some engine-terminal design, and after Nov. 1923 Inspector, built berth for oil barge at Glenwood, Head Inspector at Bogota, N. J., on grade reduction and four-tracking of West Shore R. R., Chf. of floating party on bridge-span surveys, Eastern Dist., Constr. Dept. **TT 3.4: SP 2.2: P 1.2: RC 1.2.** Sept. 1919-June 1920 Draftsman, New York and New Jersey Port and Harbor Development Comm., New York City, on railroad and terminal maps and charts. **TT 0.7: SP 0.7.** July to Oct. 1920 Draftsman, The Foundation Co., traveling to and from Payta, Peru. Oct. 1920 to Oct. 1923 Acting Squad Leader, Gen. Drafting Room, Erie R. R., New York City, plotting and computing surveys, preparing design plans and estimates for grade-crossing eliminations, relocations and terminals; was given field notes and correspondence and was responsible for final plans. **TT 3: P 3: RC 2: D 1.** Feb. 1925 to Aug. 1927 with W. H. Bowne, Glen Cove, N. Y., in full charge, field and office (from preliminary survey to final estimate), of road construction (over \$1 000 000). **TT 2.5: P 2.5: RC 2.5: D 1.** Aug. 1927 to date Surveyor at Oyster Bay, N. Y.; as Engr. for Village of Centre Island, built 1½ miles of reinforced concrete road, and repaired macadam; had full charge of survey work, plans, specifications, supervised construction and made final estimates. **TT 0.6: P 0.6: RC 0.6: D 0.2. TT 11: SP 3.7: P 7.3: RC 6.3: D 2.2.** Refers to W. M. Dawley, R. E. Dougherty, G. W. Gates, G. A. Noren, H. V. Penn, C. H. Splitstone.

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(15) BUNGER, HOWARD PHELPS, 2a San Juan de Letran No. 24, Mexico, D. F., Mexico. (Age 37. Born Wheat Ridge, Colo.) 1914 B. S. in C. E., Univ. of Colo. **TT 4: SP 4.** July 1914 to July 1917 with Atchison, Topeka & Santa Fe Ry. Co., until July 1915 as Rodman, 6 months in charge of field party, then (1 year) Chf. of field party on valuation of right-of-way and property, and after July 1916 Designer in Chf. Engr.'s office. **TT 3: SP 1: P 2: RC 1: D 1.** Sept. 1917 to March 1918 Engr., Leyden Coal Co. **TT 0.5: P 0.5: RC 0.5.** March 1918 to Jan. 1919 Office Engr. Inspector, water-works system, U. S. explosive plant, Nitro, W. Va. **TT 0.7: P 0.7: RC 0.7.** Jan. to March 1919 Instructor in irrigation and water power, Univ. of Colorado. **TT 0.3: P 0.3: RC 0.3.** March to Nov. 1919 private surveying. **TT 0.7: P 0.7: RC 0.7.** Nov. 1919 to Nov. 1920 Designer and Estimator on

concrete buildings, Colorado Bldrs. Supply Co. *TT 1: P 1: D 1.* Dec. 1920 to Dec. 1926 Designer, Bureau of Reclamation, Denver, Colo., detail designs and layout of irrigation structures. *TT 6: P 6: D 6.* Dec. 1926 to date Engr., J. G. White Eng. Corporation, S. en C., on design and studies of irrigation work for Mexican Govt. *TT 1.1: P 1.1: D 1.1. TT 17.3: SP 5: P 12.3: RC 3.2: D 9.1.* Refers to J. J. Doland, J. Hinds, C. H. Howell, M. S. Ketchum, J. L. Savage, F. E. Weymouth.

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(1) **BURKE, JOHN VALENTINE**, 26 Highland Ave., Yonkers, N. Y. (Age 26. Born Indianapolis, Ind.) 1927 B. E., National Univ. of Ireland. *TT 4: SP 4.* Refers to M. J. Burke, T. P. Burke.

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(1) **BYRNE, JEREMIAH WALTER**, 1202 East Thirty-Fourth St., Brooklyn, N. Y. (Age 37. Born New York City.) Licensed Professional Engr. and Surveyor, State of New York. 1917 B. S. in C. E., Cooper Inst. July 1907 to March 1908 Rodman, New York Edison Co., New York City. *TT 0.7: SP 0.7.* June 1911 to Nov. 1912 Rodman, Board of Water Supply, computations, etc. *TT 1.5: SP 1.5.* Nov. 1912 to May 1914 Rodman, Bureau of Design and Survey, New York City. *TT 1.4: SP 1.4.* May 1914 to Feb. 1917 Jun. Engr., Public Service Comm., New York City, in charge of base-line work and on underpinning of buildings in connection with subway work. *TT 2.8: P 2.8: RC 2.8.* Feb. 1917 to Dec. 1921 and Dec. 1922 to Jan. 1925 Asst. Supt., Turner Constr. Co., Boston, Miss., on general construction and reinforced concrete, brick and timber, etc. buildings, hydro-electric work, canal, pipe line, etc. *TT 6: P 6: RC 6.* 1925 to July 1927 with E. J. Cheney, New York City, as Appraisal Engr., on valuation of steam electric, hydro-electric, gas, water and street railway systems. *TT 2.2: P 2.2: RC 2.2.* July to Oct. 1927 Appraisal Engr., Public Works Eng. Corporation, New York City, on valuation of water and gas properties. *TT 0.3: P 0.3: RC 0.3.* Dec. 1927 to date Asst. Engr., New York State Bridge & Tunnel Comm., New York City, on final estimate. *TT 0.2: P 0.2: RC 0.2. TT 15.2: SP 3.6: P 11.6: RC 11.6.* Refers to H. J. Alexander, B. S. Bascome, W. J. Gillen, J. J. Murphy, E. Pendlebury, A. C. Tozzer.

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(7) **CHASE, LEON EVERETT**, 585 Montcalm St., Pontiac, Mich. (Age 28. Born Viroqua, Wis.) 1922 B. S. in C. E., Univ. of Wis. *TT 4: SP 4.* May to Oct. 1922 Asst. Engr., acting as Instrumentman on sewer, paving and sidewalk construction, and June 1923 to May 1925 Prin. Asst. Engr. on design study of 2-span reinforced concrete arch bridge, design of sewers and pavements and in charge of construction layouts and surveys, city of LaCrosse, Wis. *TT 2.3: SP 1.3: P 1: RC 0.5: D 0.5.* Oct. 1922 to June 1923 Jun. Engr., City of Beloit, Wis., acting as Chf. of Party on construction and as Draftsman. *TT 0.7: SP 0.7.* May 1925 to Dec. 1926 Asst. Engr. with Taylor & Woltmann, Civ. Engrs., Bloomington, Ill., being Res. Engr., on paving improvement (\$220 000) at Anna, Ill., and on reinforced concrete sewer construction at Bloomington, design of pavements and sewers. *TT 1.5: SP 0.4: P 1.1: RC 1: D 0.1.* Dec. 1926 to June 1927 Designer of reinforced concrete highway bridges, Illinois Div. of Highways. *TT 0.6: SP 0.3: P 0.3: D 0.3.* June 1927 to date Designer, City of Pontiac, sewers, etc. *TT 0.6: P 0.6: D 0.6. TT 9.7: SP 6.7: P 3: RC 1.5: D 1.5.* Refers to G. F. Burch, J. R. Pollock, E. K. Smith, L. F. Van Hagan, J. J. Woltmann.

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(2) **CHELLIS, ROBERT DUNNING**, 49 Federal St., Boston, Mass. (Age 30. Born Parsonsfield, Me.) 1919 B. S. in Civ. Eng., Univ. of Me. *TT 4: SP 4.* June to Aug. 1919 assisting in operation and maintenance of telephone repeater station, American Telephone & Telegraph Co., Harrisburg, Pa. *TT 0.1: P 0.1.* Aug. 1919 to June 1920 Designer of concrete bridges, including arch bridges, North Carolina State Highway Comm., Raleigh, N. C. *TT 0.9: P 0.9.* June 1920 to April 1923 Designer, Checker, Field Engr. and Estimator, Anthracite Bridge Co., Scranton, Pa., design of steel and concrete buildings and bridges, checking steel shop details, field engineering on concrete arch bridge construction. *TT 2.8: P 2.8: RC 1.* April 1923 to date Designer and Checker, Stone & Webster, Inc., Boston, Mass., design of structural work of power stations and industrial and office buildings. *TT 4.7: P 4.7: RC 2: D 2. TT 12.5: SP 4: P 8.5: RC 3: D 2.* Refers to R. W. Burpee, C. R. Chadwick, E. A. Dockstader, J. B. Malley, A. V. Swift, L. J. Towne.

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(12) **COLLINS, EARL HARRY**, 618 West Fourteenth Ave., Spokane, Wash. (Age 39. Born Lansing, Mich.) 1913 B. S. in Civ. Eng., and 1926 C. E., Mich. State Coll. *TT 4: SP 4.* 1913 to 1914 Deck Officer, U. S. Coast and Geodetic Survey, on triangulation and hydrography. *TT 0.6: SP 0.6.* 1914 to 1917 and 1919 with Michigan Northern Power Co., Sault Ste. Marie Mich., as Instrumentman to Asst. Engr. on reconstruction of hydro-electric plant. *TT 3.5: SP 1: P 2.5: RC 2.5: D 0.8.* 1917 to 1919 Capt., Coast Artillery, U. S. Army, Fortress Monroe, Va., in charge of construction, and Capt., Engrs., at training camp, Camp

A. A. Humphreys, Va. *TT 2: P 2: RC 2.* 1920 to 1921 Field Office Engr. with Stone & Webster, on Caribou hydro-electric development, Belden, Cal. (about 4 months); Chf. of party on reconnaissance for hydro-electric development, Elwha River, Port Angeles, Wash. (about 9 months); Draftsman with U. S. Army Engrs., Bullard Locks, on emergency dam for locks (about 4 months). *TT 1.3: SP 0.3: P 1: RC 1: D 0.6.* 1921 to date with Washington Water Power Co., Spokane, Wash., as Hydrographer to Acting Asst. Chf. Engr. on hydro-electric development and operation; 1 year on stream gauging, four years on preliminary studies of hydro-electric power developments and 1 year on construction of Chelan Power Project (ultimate capacity 128 000 h. p.). *TT 7: SP 1: P 6: RC 5: D 3. TT 18.4: SP 6.9: P 11.5: RC 10.5: D 4.4.* Refers to L. H. Davis, V. H. Greisser, R. L. Hearn, O. M. Jones, G. L. Parker, E. G. Taber, A. J. Turner.

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(11) COPELAND, RAY EDWIN, 2656 Juliet St., Los Angeles, Cal. (Age 23. Born Marshall, Mo.) 1927 B. S. in Eng. and Economics, Cal. Inst. Tech. *TT 4: SP 4.* June 1927 to date Jun. Draftsman, Los Angeles County Road Dept., Constr. Div., drafting and design of culverts, etc. *TT 0.6: SP 0.6. TT 4.6: SP 4.6.* Refers to E. A. Burt, F. J. Converse, R. R. Martel, W. W. Michael, F. Thomas.

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(4) COSTELLO, LAWRENCE, 5228 North Warnock St., Philadelphia, Pa. (Age 33. Born Philadelphia, Pa.) 1915 to 1917 student in Eng., Drexel Inst. Evening School. April 1915 to July 1916 Chairman, and July 1916 to May 1917 Rodman, Dept. of City Transit, Philadelphia, Pa. *TT 2.1: SP 2.1.* May 1917 to Feb. 1919 Seaman to Special Mechanic, U. S. Navy, on layout of buildings, streets, piers, dry docks, trackwork, etc., hydrographic surveying at Philadelphia Navy Yard, about 9 months in charge of a corps; after May 1918 with Aviation Constr. Unit in France, building bombing stations, hangars, piers, roads, sewers and water supply, being in responsible charge of two engineering corps and some draftsmen. *TT 1.8: SP 0.3: P 1.5: RC 1.5.* March 1919 to June 1923 and April 1924 to date with Dept. of City Transit, Philadelphia, as follows: March 1919 to June 1923 Transitman, on construction of Frankford Elev. Ry., including foundations, trackwork, station buildings, etc., acting as Jun. Asst. Engr. in charge of engineering corps (2 years); June 1923 to April 1924 Civ. Engr. on construction plans and estimates. *TT 0.8: P 0.8: RC 0.8.* April 1924 to Jan. 1925 Jun. Asst. Engr. on estimates and station location for Broad St. Subway; Jan. to Oct. 1925 Asst. Engr., being Acting Asst. Div. Engr. on Contr. No. 106, Broad St. Subway Divs.; Oct. 1925 to Dec. 1926 Senior Asst. Engr., acting as Div. Engr. on Contr. Nos. 107-A and 107-B, in complete charge of division of Broad St. Subway (approx. 6 500 ft. long), including three stations and appurtenant work; since Dec. 1926 Div. Engr. on same work, also in charge of layout and construction of terminal yard, shop and administration buildings; has been in responsible charge of engineers and inspectors on this work (approx. \$15 000 000). *TT 8.2: SP 2.3: P 5.9: RC 5.9. TT 12.9: SP 4.7: P 8.2: RC 8.2.* Refers to H. N. Benkert, J. L. Dodge, M. Golder, S. M. Purdy, H. H. Quimby, C. S. Shaughnessy.

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(5) CROWELL, SIDNEY HOWE, U. S. Coast and Geodetic Survey, Washington, D. C. (Age 24. Born Minneapolis, Minn.) 1927 B. S., Coll. of Eng., Univ. of Minn. *TT 4: SP 4.* June-July 1927 Culvert Inspector, and Aug. to Sept. 1927 Proportioning Inspector, Minnesota Dept. of Highways. *TT 0.2: SP 0.2.* Sept. 1927 to date Deck Officer, U. S. Coast and Geodetic Survey, Washington, D. C. *TT 0.4: SP 0.4. TT 4.6: SP 4.6.* Refers to F. Bass, C. V. Hodgson, O. M. Leland, E. H. Pagenhart, F. L. Peacock.

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(1) CRUGER-HANSEN, PAUL VALDEMAR, 29 Carolfinevej, Hellerup, Copenhagen, Denmark. (Age 31. Born Copenhagen, Denmark.) 1921 C. E., Royal Tech. Coll., Copenhagen, Denmark. *TT 4: SP 4.* Nov. 1921 to May 1922 and Nov. 1922 to Nov. 1923 in private practice at Buenos Aires, Argentine Republic, making designs, plans and estimates for industrial chemical plant, for, and (latter period) also one of Chiefs of, Cia Taurisona, etc. *TT 1.5: P 1.5: RC 1: D 1.* May to Nov. 1922 with N. M. Hansen, Civ. Engr. and Contr., Valparaiso, Chile, during building of large reinforced concrete industrial plant, ordered materials, etc. *TT 0.5: P 0.5: RC 0.5.* July 1924 to July 1925 Structural Draftsman and Checker with Purdy & Henderson, New York City, on structural steel and reinforced concrete. *TT 1: SP 1.* Aug. to Dec. 1925 with Sargent & Lundy, Chicago, as Designer of reinforced concrete and structural steel, designed greater part of columns, crane girders and wind-bracing for Scranton power station, and made investigations on wind-pressure on corrugated steel, San Benito (Tex.) power station. *TT 0.4: P 0.4: D 0.4.* Jan. to May 1926 with Maurice A. Sasso, Structural Engr., Los Angeles, Cal., made designs of all structural steel and reinforced concrete for Santa Monica Bay Telephone Co.'s new building and supervised building of foundations. *TT 0.4: P 0.4: RC 0.4: D 0.4.* Aug. to Oct. 1926 Detailer and Designer on structural

steel, Midwest Steel Co., Denver, Colo. *TT 0.2: P 0.2.* Nov. 1926 to Feb. 1927 Detailer of structural steel, Llewellyn Iron Works, Los Angeles. *TT 0.3: SP 0.3.* Feb. to March 1927 Checker and Designer of structural steel, with Parkinson & Parkinson, Archts., Los Angeles. *TT 0.1: P 0.1.* March to May 1927 Designer of structural steel and reinforced concrete, with Walker & Eisen, Archts. and Engrs., Los Angeles. *TT 0.2: P 0.2. TT 8.6: SP 5.3: P 3.3: RC 1.9: D 1.8.* Refers to A. Diefendorf, H. C. Ford, R. A. Grut, G. W. Miller, N. A. Richards, H. V. Spurr.

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(1) **DAMIAN, JOHN ART**, 892 Fallsade Ave., Teaneck, N. J. (Age 31. Born New York City.) 1919 C. E., Brooklyn Pol. Inst. *TT 4: SP 4.* Aug. 1917 to Jan. 1919 Draftsman, Weight Clerk, steel detailing and Gen. Hull Inspector, U. S. Navy, in office of Supt. of Constr. at Camden, N. J., and Navy Yard, N. Y. *TT 1.4: SP 0.7: P 0.7: D 0.3.* July 1920 to Jan. 1921, Inspector, Dept. of Public Works, Borough of Manhattan, N. Y., on streets, pavements and material testing in laboratory and at asphalt plants. *TT 0.5: P 0.5: RC 0.5.* Jan. 1921 to March 1923 Draftsman and Surveyor, Dept. of Plant and Structures, New York City, on steel, concrete and structural detailing of docks, piers, bridges and public works; 3 months Asst. in charge of renovating and reconstructing Old South Ferry. *TT 2.2: SP 1.7: P 0.5: RC 0.5: D 0.5.* March 1923 to Aug. 1924 Surveyor and Asst. Engr., Public Works, Borough of Queens, on streets, pavements and highways, surveys, lines and grades, and computing. *TT 1.4: SP 0.2: P 1.2: RC 1.* Aug. 1924 to Sept. 1925 Asst. Engr., State Highways, Arkansas, surveys, location, supervision and construction of highways, steel and concrete bridge and culvert designing. *TT 1.1: P 1.1: RC 1.* Sept. 1925 to Sept. 1926 Asst. Res. Engr. with J. B. McCrary, at Arcadia, Fla., on surveys, lines, grades, computing, designing and plotting field notes of pavements, sewers, water and municipal improvements. *TT 1: P 1: RC 1: D 0.5.* 1926 to Aug. 1927 Res. Engr., American Industries Eng. Corporation, general supervision of construction of golf club courses and subdivision, surveys, computing and plotting steel and water-works. *TT 1: P 1: RC 1: D 1.* Aug. 1927 to date Chf. of Party and Draftsman, Teaneck Township, on preliminary surveys, final location of lines and grades, designing, computing and plotting field notes for pavements and sewers. *TT 0.4: P 0.4: RC 0.4: D 0.2. TT 13.1: SP 6.7: P 6.4: RC 5.4: D 2.6.* Refers to C. F. Blood, M. T. Bolmer, C. G. Chamberlin, H. W. Heilmann, T. Human, Jr., E. V. Young.

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(1) **DAVIS, EDWARD RUSSELL**, 126 Lembeck Ave., Jersey City, N. J. (Age 37. Born Norwich, N. Y.) 1913 C. E., Cornell Univ. *TT 4: SP 4.* July 1913 to Aug. 1915 with C. E. Harris, at Norwich, N. Y., as Inspector on construction, Instrumentman, and Draftsman on county and municipal work. *TT 2.1: SP 2.1.* Aug. 1915-Dec. 1917 Inspector, Leveler and Jun. Asst. Engr., New York State Highway Comm., on construction and maintenance. *TT 2.4: SP 2.4.* Jan. 1918 to March 1919 City Engr., Norwich, N. Y., on construction and maintenance of pavements, sewers, drains, etc. *TT 1.2: P 1.2: RC 1.2: D 1.2.* April 1919 to July 1923 Field Engr., Supt. of Streets, Office Engr. and Asst. Director of Public Works, City of Newport News, Va., on surveys, construction, maintenance and operation, sewers, water, pavements, garbage and refuse collection and disposal, water-front construction and maintenance, building permits and inspection, etc. *TT 4.3: SP 0.5: P 3.8: RC 3.8: D 3.8.* July 1923 to Nov. 1925 Civ. Engr., Virginia Eng. Co., at Newport News, acting as Estimator and Field Supervisor on construction in Maryland, Virginia and North Carolina. *TT 2.3: P 2.3: RC 1.3.* Dec. 1925 to date Constr. Supt., U. S. Gypsum Co., on new buildings, and equipment and on mill additions, at New Brighton, N. Y., Plasterco, Va., and Falls Village, Conn., supervising field work for construction of buildings and installation of machinery, also altering design to suit installations; at present at New Brighton on special engineering investigations, principally study of power problem. *TT 2: P 2: RC 2. TT 13.3: SP 9: P 9.3: RC 8.3: D 5.* Refers to J. H. Bruning, C. S. Davis, H. D. Hinman, G. C. Love, H. N. Ogden.

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(4) **DILLINGHAM, GEORGE MOFFETT**, 1330 Pine St., Philadelphia, Pa. (Age 35. Born Charleston, S. C.) 1913 B. S., Coll. of Charleston, S. C. 1916 B. S. in C. E., Univ. of Pa. *TT 4: SP 4.* July 1916 to May 1917 Detailer, until Jan. 1917 with Concrete Steel Co., Philadelphia, Pa., then with M. S. Rich, Structural Engr., Washington, D. C., detailing reinforcement for concrete structures and designing (under Mr. Rich) of reinforced-concrete apartment houses. *TT 0.8: SP 0.8.* June 1917 to March 1918 2d Lieut., U. S. Reserves, March 1918 to March 1919 1st Lieut., U. S. National Army, March to July 1919 Capt., U. S. Army, with 306th Engrs., 81st Div.; after March 1918 with A. E. F. *TT 2.1: SP 2.1.* Sept. to Oct. 1919 Detailer of reinforcement for concrete structures, Concrete Steel Co., New York City. *TT 0.1: SP 0.1.* Oct. 1919-Feb. 1928 with Turner Constr. Co., Philadelphia, as follows: Oct. 1919 to May 1922 Cost Engr., reports, estimates, etc.; May to

Oct. 1922 Asst. Supt. of Constr., in charge of line and grade work, placing of reinforcing steel and subcontract items on construction of 8-story and basement reinforced concrete warehouse (approx. cost \$262 000); Oct. 1922 to Feb. 1924 Supt. of Constr. in charge, until June 1923, of construction of 5-story reinforced-concrete warehouse in Washington, D. C. (approx. cost \$135 000), then of field and office work and, after Aug. 1923, of construction of 2-story and basement reinforced concrete warehouse in New York City (approx. cost \$200 000); since April 1924 Asst. Engr., supervising construction drawings, checking and supervising checking of subcontractors' shop details, instructing Purchasing Dept. as to purchase of materials and award of subcontracts, inspecting field work, designing reinforced concrete structures, including 8-story warehouse (flat slab), tanks, retaining walls, stadium deck slab, etc. *TT 8.3: P 8.3: RC 4.8: D 0.5. TT 15.3: SP 7: P 8.3: RC 4.8: D 0.5.* Refers to E. R. Bear, H. C. Berry, W. H. Gravell, L. S. Homer, H. C. Paddock, M. S. Rich.

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(4) **DOHERTY, WILLIAM EDWARD ALOYSIUS**, 1807 South Sixty-Fifth St., Philadelphia, Pa. (Age 34. Born Philadelphia, Pa.) 1925 Diploma, Civ. Eng. Dept., Drexel Inst. (Evening School), Philadelphia, Pa. Nov. 1915 to date (except June 1917 to April 1919 with 19th U. S. Engrs., A. E. F., acting as Asst. to Supply Officer at Engr. Depot, Nevers, France) with City of Philadelphia, Pa., as follows: Nov. 1915 to June 1917, and April 1919 to Jan. 1922 Inspector of street cleaning, street paving, repairing and grading road construction and maintenance, concrete curbs, etc.; Jan. 1922 to March 1923 Superv. Inspector on paving and repaving, assisting Dist. Engr. on same work, and Inspector-in-Chg. of improvement to East League Park and of repaving part of Delaware Ave. some surveying; March 1923 to Sept. 1924 Acting Asst. Engr., supervising part of construction and maintenance of city streets and country roads, mosquito elimination, and maintenance of 23 miles of river banks; Sept. 1924 to April 1926 Asst. Engr. on same work, also supervising part of surface-treatment and oiling of roads, snow removal and acting as Dist. Engr. in absence of Dist. Engr., laying out work, etc.; since April 1926 Dist. Engr., until Dec. 1926 directly in charge of construction and maintenance of streets and roads in 2d Highway Dist. and of construction of new streets in Sesqui Exhibition area (cost in June 1926 \$1 500 000); since Dec. 1926 in charge of construction, and maintenance (350 miles), of streets and roads in 1st Dist.; also supervising and directing grading, paving, repaving of streets, construction and maintenance of concrete and macadam roads; work includes drainage in lowland section of 40th Ward, laying out program of country road construction, making special inspection and reports, etc. *TT 12.1: SP 6: P 6.1: RC 1.9.* Refers to J. Adler, D. T. Corning, C. E. Myers, C. S. Shaughnessy, A. G. Singer.

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(12) **DOLAN, SAMUEL MICHAEL PATRICK**, 409 North Twenty-Fifth St., Corvallis, Ore. (Age 43. Born Folkestone, England.) 1910 C. E., Univ. of Notre Dame. *TT 4: SP 4.* 1910 to 1917 Instructor, 1917 to 1920 Asst. Prof., and 1920 to date Associate Prof., Oregon State Coll. Summers Transitman on design, etc., college campus improvements. (1910 to 1916), Transitman, Locator and in charge of construction on Crater Lake Rim Road, with U. S. Engrs. (1917), Draftsman (1918) and compiling statistics (1919), Southern Pacific Co., Portland, Ore., Transitman, U. S. Bureau of Roads (1921), and Locating Engr. (1920), Inspector (1925) and Res. Engr. (1926), Bridge Dept., Oregon State Highway Comm. *TT 15.8: SP 2.3: P 13.5: RC 8.6. TT 19.8: SP 6.3: P 13.5: RC 8.6.* Refers to L. P. Campbell, F. F. Henshaw, R. A. Klein, C. B. McCullough, S. Murray, G. S. Paxson, H. S. Rogers.

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(1) **DOWNER, JAY**, Bronxville, N. Y. (Age 50. Born Muscatine, Iowa.) 1905 C. E., Princeton Univ. *TT 4: SP 4.* Summers 1899-1901 Rodman, U. S. Engr. Corps., and (1901) Chicago, Milwaukee & St. Paul Ry. Aug. 1902 to Sept. 1903 Chf. Engr., Cape Breton Ry Co., Ltd., St. Peters, C. B., Nova Scotia, in charge of construction. *TT 1.1: P 1.1: RC 1.1.* Summer 1904 Field Engr. with Ballantyne & Evans, Cons. Engrs., on investigation of round-bale cotton-ginning industry; reported on seventy ginning plants. June 1905 to Sept. 1907 Supt. of Constr., Aluminum Co. of America, Massena, N. Y., in charge of constructing factory buildings, aluminum-reduction plants with electrical equipment, ore-storage bins, 10 000-h. p. electric-transmission line, installation of four 2 250-kw. generators, railroad and highway bridges with pneumatic caisson pier construction, assembling and operating elevator and hydraulic dredges and 10-yd. dipper dredge, dump and deck scows (aggregate \$1 500 000). *TT 2.3: P 2.3: RC 2.3.* Oct. 1907 to April 1909 Engr., Scarsdale (N. Y.) Co., in charge of design and construction of real-estate developments and dwellings; surveys, assessment map for Scarsdale, and preliminary investigations for Bronx River Parkway. *TT 1.4: P 1.4: RC 1.4: D 1.4.* May 1909 to July 1912 Engr. and Vice-Pres., Island Cities Real Estate Co., Brooklyn, N. Y., management and development of various city and suburban properties, etc.

TT 3.2: P 3.2: RC 3.2. Aug. 1912-Dec. 1925 Engr. and Secy., Bronx Parkway Comm., Bronxville, N. Y., in general charge of surveys and of design and construction of Bronx River Parkway (15½ miles long, aggregate cost \$8 000 000). *TT 13.4: P 13.4: RC 13.4: D 13.4.* Feb. 1923 to date Chf. Engr., Westchester County Park Comm., Bronxville, in charge of laying out and developing system of parks and parkways (appropriation to date over \$45 000 000). *TT 2.2: P 2.2: RC 2.2: D 2.2.* *TT 27.6: SP 4: P 23.6: RC 23.6: D 17.* Refers to C. Gilman, L. G. Holleran, G. W. Kittredge, H. M. Lewis, R. Ridgway, A. S. Tuttle.

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(4) **EATON, HAROLD IRVING**, 4 North Carolina Ave., Atlantic City, N. J. (Age 40. Born Waltham, Mass.) 1905 to 1908 student in San. Eng., Massachusetts Inst. of Technology. *TT 1.5: SP 1.5.* Summer 1907 Rodman and Draftsman, City of Waltham, Mass. June to Sept. 1908 Recorder, U. S. Engr. Dept., surveying and mapping channel in Boston Harbor. *TT 0.3: SP 0.3.* Sept. to Dec. 1908 bacteriological and chemical analysis of sewage and sewage effluents of filters, at Massachusetts Inst. of Technology Sewage-Experiment Station, Boston, Mass. *TT 0.3: P 0.3.* Dec. 1908 to May 1912 San. Engr., Isthmian Canal Comm., Canal Zone, Panama, in charge of various municipal and sanitary districts. *TT 3.5: P 3.5: RC 3.5.* 1912 to 1916 Chf. Engr., Atlantic County Mosquito Extermination Comm., Atlantic City, N. J., in charge of drainage. *TT 3.5: P 3.5: RC 3.5: D 3.5.* 1916 to 1920 Pres. and Chf. Engr., Eaton, Brown & Simpson, Inc., Contr. Engrs., New York City, on construction of drainage, bulkheads, docks, cantonments, etc.; 1917 to 1918 also Cons. Engr., U. S. Public Health Service, on extra-territorial cantonment service. *TT 4: P 4: RC 4.* 1920 to Nov. 1922 Contr. and Cons. Engr., on construction of highways, drainage projects, etc. *TT 2: P 2: RC 2: D 2.* Nov. 1922 to Dec. 1927 Chf. Engr., Island Development Co., Atlantic City, in charge of development of Brigantine Island: Jan. 1924 to date also Vice-Pres. and Treas., Eastern Eng. Co., Atlantic City, on construction of highways, bridges, water and sewerage systems, etc., and City Engr. of Brigantine, N. J., installing water and sewerage systems, mapping, etc. *TT 5.2: P 5.2: RC 5.2: D 5.2.* *TT 20.3: SP 1.8: P 18.5: RC 18.2: D 10.7.* Refers to W. R. Buie, Jr., V. Gelineau, J. W. Hackney, E. R. Needles, W. I. Risley, H. J. Sherman.

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(4) **ENGLE, AMOS BRENNEMAN**, 4801 Pine St., Philadelphia, Pa. (Age 40. Born Bainbridge, Pa.) April 1903 to date with Bureau of Surveys, Philadelphia, Pa., as follows: April 1903 to Sept. 1907 successively Apprentice, Chainman, and Rodman, and Transitman; Sept. 1907 to July 1914 with 12th Survey Dist., in charge of a corps, until Jan. 1909 as Second Asst., and Jan. 1909 to July 1914 First Asst., giving lines and grades, then on grading, paving, sewers and property surveys, also preparation of plans; July 1914 to March 1925 Prin. Asst., 7th Survey Dist., in charge of a corps, supervising office force and (in absence of Dist. Surveyor) office; since March 1925 Dist. Surveyor and Regulator, 7th Survey Dist.; attends meetings of Board of Surveyors, supervises and directs engineering force of office and preparation of plans and estimates for construction of sewers, paving, grading and improving streets and roads and checks work, municipal contracts, etc.; as Dist. Surveyor has responsible charge and direction of establishing property lines, surveys, plans, etc. *TT 24.9: SP 4.4: P 20.5: RC 2.8.* Refers to T. Buckley, J. H. Gillingham, A. Z. Hoffman, W. C. Reeder, A. G. Singer.

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(12) **FORDE, JACK LAWRENCE**, North 910 Cochran St., Spokane, Wash. (Age 34. Born Kansas City, Mo.) 1912 to 1913 and 1914 to 1916 (3 years) student, Engr. School, Univ. of Washington. *TT 1.5: SP 1.5.* 1910 Chainman, Spokane International Ry. *TT 0.5: SP 0.5.* June 1911 to June 1912 Chainman and Rodman, Great Northern Ry. *TT 1: SP 1.* June to Sept. 1912 Rodman, Oregon-Washington Ry. & Navigation Co. *TT 0.3: SP 0.3.* June to Dec. 1913 Levelman on West Okanogan Valley Irrigation Dist., location and construction. *TT 0.5: SP 0.5.* April to Oct. 1919 Party Chf. on highway location in Central Washington. *TT 0.5: P 0.5.* June to Dec. 1920 Party Chf. on irrigation ditches and laterals, surveying and location and construction. *TT 0.5: P 0.5.* Jan. 1921 to date with Washington Water Power Co., Spokane, as follows: 1921 Transitman and Party Chf. on transmission line survey and location; 1922 Instrumentman on ground layout, construction of concrete control dam; 1923-1925 Stream Gauger and Hydrographer; 1926 and 1927 Hydrographer in charge of securing field records, location and construction of gauging stations, assembling and working up data for power studies, electrical system planning, plant efficiencies, etc.; also in charge of snow surveys for forecasting stream runoff. *TT 6: P 6: RC 2.* *TT 10.8: SP 3.8: P 7: RC 2.* Refers to H. C. Bender, E. Logan, W. L. Morgan, G. L. Parker, J. C. Stevens, A. J. Turner.

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(7) GILMORE, DAVID PRYDE, 1735 Glynn Court, Detroit, Mich. (Age 42. Born Arnot, Pa.) 1907 B. S. in C. E., Pa. State Coll. 1913 M. S., State Univ. of Iowa. TT 4: SP 4. June to Sept. 1907 Draftsman, American Bridge Co., structural detailing. TT 0.2: SP 0.2. Sept. 1907 to Sept. 1909 Instructor in Civ. Eng., Pennsylvania State Coll. TT 2: P 2. Sept. 1909 to Sept. 1924 with State Univ. of Iowa, until Sept. 1913 as Instructor in drawing and descriptive geometry, then Asst. Prof. of mechanics and hydraulics, and after Sept. 1920 Associate Prof. of Civil Engineering; summers detail and design of viaduct piers (1912) and of structural steel bridge work (1914), Asst. Engr. on valuation (1917), Detailer and Designer, structural steel bridge work (1919 and 1920) for Chicago, Milwaukee & St. Paul Ry. Co. Computer, Miami Conservancy Dist., on flood-control work (1915), Detailer and Designer, Federal Bridge Co., Waukesha, Wis. (1916) and Engr., U. S. Forest Products Laboratory, investigation and tests, wood part of airplanes (1918). TT 13.2: P 13.2: RC 9.1: D 1.2. Sept. 1924 to Oct. 1925 Engr. of Tests, City of Detroit, in charge of tests of paving and sewer materials. TT 1: P 1: RC 1. Sept. 1925 to date Prof. and Head of Dept. of Civ. Eng., Univ. of Detroit. TT 2.4: P 2.4: RC 2.4. TT 22.9: SP 4.2: P 18.7: RC 10.5: D 1.2. Refers to H. N. Aikman, C. N. Bainbridge, P. A. Fellows, B. J. Lambert, E. D. Walker.

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(6) GILSON, ALFRED AROL, Fredonia, Pa. (Age 26. Born Connellsville, Pa.) 1927 B. S., Pa. State Coll. TT 4: SP 4. April to Sept. 1924 Rodman with Stone & Webster at Sharon, Pa. June 1927 to date Inspector, Pennsylvania State Highway Dept., Pittsburgh, Pa. TT 0.7: SP 0.7. TT 4.7: SP 4.7. Refers to R. L. Sackett, E. D. Walker.

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(5) GOLDSMITH, JOSEPH BLACKISTONE, 1350 Perry Pl. N. W., Washington, D. C. (Age 26. Born Washington, D. C.) 1927 B. S. in Civ. Eng., George Washington Univ. TT 4: SP 4. April 1927 to date Eng. Asst., Chesapeake & Potomac Telephone Co., on fundamental planning and long-time cost studies. TT 0.8: P 0.8. TT 4.8: SP 4: P 0.8. Refers to W. Bowie, O. B. French, J. R. Lapham.

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(1) GOLDSMITH, SAUL, 4914 Church Ave., Brooklyn, N. Y. (Age 23. Born Brooklyn, N. Y.) Past 5 years student in Civ. Eng., Cooper Union Night School. Jan. 1921 to July 1926 with Murray Klein, Archt., Brooklyn, N. Y., on brick factory and office buildings, dwellings, temple (Odd Fellows), fireproof garages, nursery buildings, steel skeleton fireproof warehouse, etc., until Jan. 1922 as Draftsman, then Chf. Draftsman and Designer, and after July 1922 Chf. Draftsman, Designer and Supt. TT 5.4: SP 4.7: P 0.7: RC 0.7: D 4.4. July 1926 to Jan. 1927 Supt. on brick houses (6-family) and Jan. to June 1927 and Aug. to Oct. 1927 Designer and Supt. on apartment house, store and dwellings (all brick), for Skolnik Constr. Co., Inc., Brooklyn. TT 1.1: P 1.1: RC 1.1: D 0.7. June to Aug. 1927 Supt. on brick factory building for Simone Bros., Contrs. TT 0.2: P 0.2: RC 0.2. Oct. 1927 to date Designer and Supt. on brick apartment house for Lincoln Eng. & Constr. Co., Flushing, N. Y. TT 0.3: P 0.3: RC 0.3: D 0.3. TT 7: SP 4.7: P 2.3: RC 2.3: D 5.4. Refers to W. E. Brown, H. R. Codwise, F. E. Foss, G. Morrison, M. H. Van Buren, J. P. J. Williams.

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(15) GRACE, JOE WILLIAM, 701 South Clinton St., Dallas, Tex. (Age 34. Born Hico, Tex.) Sept. 1914 to Jan. 1918 student in Civ. Eng., Agricultural and Mechanical Coll. of Texas. TT 1.5: SP 1.5. 1912 to 1914 Timekeeper and Pusher on bridge crews, Missouri Valley Bridge & Iron Co., and Austin Bros. May to Sept. 1915 and May to Sept. 1917 Timekeeper and Pusher on bridge work, and May to Sept. 1916 Draftsman, with Austin Bros. Jan. 1918 to Feb. 1919 Enlisted man and Officer, Signal Corps, U. S. Army, in United States, England and France. Feb. 1919 to date with Austin Bridge Co. as follows: Feb. 1919 to Feb. 1920 Draftsman; Feb. 1920 to Feb. 1923 Chf. Draftsman; Feb. 1923 to Aug. 1924 Engr. in charge of construction; Aug. 1924 to Aug. 1925 Engr. in charge of large bridge project in Louisiana; Aug. 1925 to Aug. 1926 Contr. Agt. representing the Company in Louisiana; since Aug. 1926 Constr. Engr. TT 8: SP 1: P 7: RC 7: D 8. TT 9.5: SP 2.5: P 7: RC 7: D 8. Refers to L. B. Bone, G. Gliechrist, N. E. Lant, H. L. Luther, J. T. L. McNew, J. C. Nagle, J. J. Richey, C. E. Zigenbein.

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(9) GRIME, LEONARD, 1219 Utah St., Toledo, Ohio. (Age 23. Born Stretford, England.) 1926 B. A. Sc., Univ. of Toronto. TT 4: SP 4. May to Oct. 1926 Detailer on Reinforced Concrete, Truscon Steel Co., Detroit, Mich. TT 0.4: SP 0.4. June 1927 to date Structural Draftsman, American Bridge Co., Toledo, Ohio. TT 0.7: SP 0.7. TT 5.1: SP 5.1. Refers to C. H. Mitchell, C. R. Young.

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(11) **HACKNEY, HOWARD ROGER**, 4059 So. Halldale Ave., Los Angeles, Cal. (Age 42. Born Walton, Kans.) June 1907 to April 1916 Chainman, Rodman, Transitman, Draftsman and Inspector on various work. *TT 8.7: SP 8.7.* April to Oct. 1916 Surveyor, American Beet Sugar Co., in charge of acreage surveys and water distribution. *TT 0.5: SP 0.5.* Oct. 1916 to March 1917 Transitman, United Verde Copper Co., Jerome, Ariz., on railroad location. *TT 0.5: SP 0.5.* March 1917 to May 1918 Asst. Engr., Tulane Lake & Water Co., Corcoran, Cal., on location and construction of 30 miles of main canal and construction of several pumping plants. *TT 1.1: P 1.1.* May to Oct. 1918 Transitman, O. P. R. & R. E., U. S. Dept. Agriculture at San Francisco, Cal., on location of highway on Kalamouth River. *TT 0.5: SP 0.5.* Oct. 1918 to March 1919 1st Lieut. of Engrs. with U. S. Army. *TT 0.3: P 0.3.* March 1919 to Aug. 1920 Locating Engr., United Fruit Co., Preston, Oriente, Cuba, had charge of location and construction of Sojo Dam and water supply system, also some railroad extension. *TT 1.5: P 1.5: RC 1.5.* Aug. 1920 to Oct. 1923 Asst. Engr., Arthur L. Collins, also Rosenthal and Davis, San Francisco, Cal., efficiency determination of power and pumping plants, also had charge of surveys and construction of irrigation works. *TT 3.1: P 3.1.* Oct. 1923 to Oct. 1924 Surveyor, Porter H. Albright Eng. Corp., Los Angeles, surveys and subdivision. *TT 1: SP 1.* Oct. 1924 to July 1925 Supt., Great Western Gypsum Co., Arden, Nev., had charge of mining property, laid out workings and opened main deposit, constructed roads, installed machinery and built bins and dumps for 100-ton daily capacity. *TT 0.7: P 0.7: RC 0.7.* July 1925 to date Asst. Engr., Porter H. Albright Eng. Corporation, Los Angeles, on general construction and land subdivision. *TT 2.5: P 2.5. TT 20.4: SP 11.2: P 9.2: RC 2.2.* Refers to P. H. Albright, A. L. Collins, R. E. Davis, H. Parker, C. H. Richards.

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(11) **HALL, JOSEPH WILLIAM**, Box 386, Azusa, Cal. (Age 30. Born Parsons, Kans.) 1919 C. E., Illinois Univ. *TT 4: SP 4.* Summer vacations, Rodman, Missouri, Kansas & Texas Ry. June 1919 to May 1920 Chf. of Party, Empire Gas & Fuel Co., in charge of field work. *TT 0.9: P 0.9: RC 0.9.* May 1920 to Aug. 1921 Chf. of Party, Park Dept., Kansas City, Mo., in charge of field work for city parks and boulevards. *TT 1.3: P 1.3: RC 1.3.* Aug. 1921 to Aug. 1922 Rodman and Chf. of Party, Atchison, Topeka & Santa Fe Ry., on rail relaying and maintenance. *TT 1: P 1: RC 1.* Aug. 1922 to Aug. 1923 Res. Engr., Santa Fe & North Western R. R., Albuquerque, N. Mex., in responsible charge of construction (26 miles). *TT 1: P 1: RC 1.* Aug. 1923 to Sept. 1924 Estimator, Pacific Elec. Ry., on design and estimate of cost of new work, directing construction, etc. *TT 1.1: P 1.1: RC 1.1.* Sept. 1924 to Sept. 1925 Asst. City Engr., Santa Monica, Cal., writing specifications, directing drafting, computations for designs, etc. *TT 1.1: P 1.1: RC 1.1.* Sept. 1925 to date Asst. Engr., Los Angeles County Flood Control Dist., on construction of San Gabriel Dam., includes field work, computation for design, investigation, methods of execution and construction. *TT 2.4: P 2.4: RC 2.4. TT 12.8: SP 4: P 8.8: RC 8.8.* Refers to E. C. Eaton, S. M. Fisher, H. E. Hedger, D. R. McFarland, F. C. McMillan.

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(12) **HANER, VICTOR CECIL**, 5031 Fifteenth Ave. N. E., Seattle, Wash. (Age 27. Born Wickersham, Wash.) 1927 B. S. in C. E., Univ. of Wash. *TT 4: SP 4.* Refers to I. L. Collier, C. W. Harris, C. C. More.

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(9) **HANLEY, JOHN MERRILL**, 1062 Union Trust Bldg., Cleveland, Ohio. (Age 30. Born Dorchester, Mass.) 1918 B. S., Mass. Inst. Tech. S. B., Harvard Eng. School. *TT 4: SP 4.* June to Oct. 1918 Asst. Instructor Massachusetts Inst. of Technology at school and Summer Surveying Camp. *TT 0.3: SP 0.3.* Oct. 1918-Jan. 1919 with U. S. Army Coast Artillery Corps, at Ft. Monroe, Officers' Training School; 2nd Lieut., O. R. C. March 1919 to Jan. 1927 with Factory Mutual Inspection Dept., Boston, as follows: March to Sept. 1919 Surveyor and Draftsman, drafting on plans, sketches and automatic sprinkler layouts, etc.; Sept. 1919 to Jan. 1920 Asst. Engr., examination and approval of fire protection layouts for manufacturing plants; obtaining data for layouts, etc.; Jan. 1920 to April 1923 Engr., in charge of approval and laying out of fire protection systems for industrial properties and (after March 1921) editing special inspectors' engineering reports for proper design and fire protection layouts; April 1923-Dec. 1926 Field Inspector, being Consultant on construction, occupancy, protection and exposure of manufacturing properties throughout United States and Canada; making engineering reports on fires, wind-storms, explosions and fire protection layouts. *TT 7.8: SP 0.8: P 7: RC 7: D 1.2.* Jan. 1927 to date Engr., Firemen's Mutual Insurance Co., Cleveland, Ohio, making engineering reports on properties with recommendations for improvement; Consultant on fire protection and prevention, laying out and approving fire-protection systems. *TT 1: P 1: RC 1: D 0.2. TT 13.2: SP 5.2: P 8: RC 8: D 1.5.* Refers to C. B. Breed, H. B. Burley, W. F. Farley, J. R. Freeman, G. L. Hosmer, C. G. Richmond, C. M. Spofford.

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(8) HARRISON, DWIGHT, Jr., Care, Sandusky Cement Co., Dixon, Ill. (Age 32. Born Georgetown, Ohio.) 1915 to 1917 student in Civ. Eng., Purdue Univ. *TT 1: SP 1.* Aug. to Dec. 1917 Rodman, City Engr.'s office, Columbus, Ohio. *TT 0.5: SP 0.5.* May 1918 to Feb. 1919 Lieut., Eng. Dept., Air Service, U. S. Army, building railroads and sawmills in Oregon for airplane timber production. *TT 0.8: P 0.8.* Feb. 1919 to Sept. 1925 Field Engr., until Sept. 1921 with The Foundation Co., Pittsburgh, Pa., on construction of railroads, electric power house and industrial buildings, then with Phoenix Portland Cement Co., Birmingham, Ala., on construction and operation of cement plant. *TT 5.7: P 5.7: RC 0.7.* Sept. 1925 to Dec. 1926 with Cowham Eng. Co., Chicago, Ill., until July 1926 as Supt. of construction and maintenance, Engr. on construction and operation of cement plant, signal maintenance, Portland Cement Co., Chattanooga, Tenn., and after July 1926 Asst. Supt. and Gen. Foreman on construction of cement plant, Portland Cement Co., Tampa, Fla. *TT 1.2: P 1.2: RC 1.2.* July to Dec. 1927 Estimator, Anchor Fireproofing Co., Detroit, Mich., estimating interior clay tile, gypsum partitions and gypsum roofs on buildings. *TT 0.5: P 0.5.* At present Supt. of Constr., Sandusky Cement Co., Dixon, Ill., remodeling cement plant. *TT 0.2: P 0.2. TT 9.9: SP 1.5: P 8.4: RC 1.9.* Refers to F. W. Adgate, L. J. Hotchkiss, G. R. Johnson, R. C. Pierce, R. H. Simpson, J. R. Wilbanks.

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(11) HAYS, JAMES PATERSON, 777 East Washington St., Los Angeles, Cal. (Age 41. Born Edinburgh, Scotland.) Student Extension course, Indiana Univ., International Correspondence School and American School of Correspondence. 1904 to 1907 with Wm. C. Hay, Gen. Contr., Lawrence, Ind., estimating, purchasing and construction. *TT 3: SP 3.* Dec. 1907 to July 1916 Foreman, Constr. Engr. and Supt. on construction in Indianapolis, Ind., including a power house, an Army Post building, etc. *TT 8.5: SP 4.5: P 4: RC 4.* July 1916 to March 1922 with The Austin Co., Engrs. and Bldrs., Cleveland, Ohio, on industrial and commercial buildings (\$150 000 to \$2 500 000, some named in application) until June 1920 as Constr. Engr. and Supt., then Dist. Supt. in complete charge of all construction projects, Cleveland Dist. (middle west states). *TT 5.7: P 5.7: RC 5.7.* March 1922 to date with The Austin Co. of California, Los Angeles, San Francisco and Oakland, Cal., until Sept. 1927 as Constr. Mgr. and Engr., assisted in setting up organization and had direct charge of construction work, purchasing, subcontracts, preliminary design, layouts, surveys, estimates, general plans and details of all projects, covering all types of industrial and commercial projects, including warehouses, office and mill buildings, motion pictures studios, etc. (\$150 000 to \$1 000 000, some named in application). Since Sept. 1927 Asst. Gen. Mgr. in direct charge of engineering, estimating, purchasing and construction; since 1922 has had complete charge of 290 contracts covering practically every type of construction and materials. *TT 5.8: P 5.8: RC 5.8. TT 23: SP 7.5: P 15.5: RC 15.5.* Refers to M. R. Dinamore, L. A. Elsener, R. McHenry, L. S. Rosener, R. L. Russell, R. E. Ward, P. F. Wilkes.

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(8) HERRICK, THOMAS LORIMER, 1014 South Michigan Ave., Chicago, Ill. (Age 31. Born Fredericksburg, Iowa.) 1923 B. E., and 1924 M. S., State Univ. of Iowa. *TT 4: SP 4.* June 1923 to Sept. 1924 with State Univ. of Iowa, until June 1924 as Research Asst. in mechanics and hydraulics, topographic survey of small drainage basin, etc., then Eng. Asst., experimental work on flow of water through culverts. *TT 1.2: P 1.2.* Sept. 1924 to April 1925 Jun. Engr., San Dist. of Indianapolis, Ind., 2 months, inspecting sewer construction, then drafting and designing. *TT 0.5: P 0.5.* April 1925 to date Asst. Engr., San. Dist. of Chicago, Ill.; work involves stream pollution study of Des Plaines-Illinois River system, and includes compilation of hydrometric data, studies of effect of reclamation and of sludge deposits and estimates of effect of further sewage treatment in Chicago. *TT 2.8: P 2.8: RC 2. TT 8.5: SP 4: P 4.5: RC 2.* Refers to C. H. Hurd, F. A. Nagler, L. Pearse, E. L. Waterman, S. M. Woodward, D. L. Yarnell.

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(2) HERTEL, FREDERICK ERNEST, 49 Federal St., Boston, Mass. (Age 35. Born New York City.) 1915 C. E., Cornell Univ. *TT 4: SP 4.* Jan. 1910 to Sept. 1911 Computer, Title Guarantee & Trust Co., New York City, computations and mapping. *TT 1.7: SP 1.7.* June 1915 to Jan. 1916 Field Engr., Hudson County Park Comm., in charge of surveys and laying out park roads, curbs, paths, bridges, drainage, services, etc., at Bayonne, N. J. *TT 0.5: SP 0.5.* Feb. to May 1916 with Public Service Comm., New York City, as Inspector of shield tunneling and erection of shell for subways under East River. *TT 0.3: SP 0.3.* May 1916 to June 1917 Draftsman, New York Central R. R., New York City, designing and drafting for timber, steel and reinforced concrete structures. *TT 1.1: SP 1.1.* July 1917 to May 1918 Concrete Designer, Chile Exploration Co., New York City, designing and checking reinforced concrete ore bins, leaching vats, crusher and power plants, etc. *TT 0.8: SP 0.8.*

May 1918 to Jan. 1920 Asst. Structural Engr., American International Shipbuilding Corporation, Philadelphia, estimating and supervising design of structures for Hog Island Shipbuilding plant. *TT 1.7: P 1.7: RC 1.7.* Jan. 1920 to date Asst. to Chf. Structural Engr., Stone & Webster, Inc., Boston, estimating, writing specifications and contracts, and directing design and preparation of drawings for all kinds of structures (specified in application); also report and appraisal work and (since July 1924) assisting Chf. Structural Engr. in consulting, approving and supervising work of Structural Div. *TT 8: PS: RC 8: D 3.5. TT 18.1: SP 8.4: P 9.7: RC 9.7: D 3.5.* Refers to R. W. Burpee, F. O. Dufour, H. A. Hageman, A. L. Hartridge, J. C. Hays, C. E. Nichols, W. N. Patten, L. N. Reeve, T. T. Towles, L. J. Towne, D. M. Wood.

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(3) HERTHE, NORMAN MATTHEW, 2022 Liberty Bank Bldg., Buffalo, N. Y. (Age 31. Born Buffalo, N. Y.) Aug. 1912 to date with Ellsworth, Barrows & Reeves (Ellsworth, Barrows & Co.), Buffalo, N. Y. as follows: Aug. 1912 to Sept. 1914 Chainman, Rodman and Transitman; Sept. 1914 to Jan. 1917 Inspector, and in charge of field layout of sewers, water supply and pavements in City of Tonawanda; Jan. 1917 to Feb. 1922 supervision of field work involved in land surveys and real-estate developments, including grading and street improvements. Feb. 1922 to March 1927 design of street grades in Village of LeRoy, estimating and design of pavements, sewers and track layouts, field and office work on valuation of public-utility and industrial properties; since March 1927 member of firm, specializing in valuation of public utility properties. *TT 15.4: SP 4.9: P 10.5: RC 3.9: D 2.* Refers to G. E. Barrows, J. H. Feigel, C. L. Howell, J. G. Little, W. A. Rathmann, F. K. Wing.

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(1) HETTINGER, HAROLD INGERSOLL, Ulen & Co., Manizales, Colombia. (Age 30. Born Freeport, Ill.) 1921 C. E., Cornell Univ. *TT 4: SP 4.* March 1921 to Jan. 1922 Asst. City Engr., Freeport, Ill., on design and supervision of city paving. *TT 0.8: P 0.8.* Jan. 1922 to Aug. 1923 Chf. of Party and Dist. Engr., Venezuelan Sun, Ltd., on oil-exploration surveying, triangulation, field work, computations, road location, Maracalbo Lake Dist., Venezuela. *TT 1.7: P 1.7: RC 1.7.* Oct. 1923 to April 1924 with Manitowoc (Wis.) Portland Cement Co. as Field Engr. on construction of and Supt. on steel erection for cement plant (mill buildings). *TT 0.5: P 0.5: RC 0.3.* April to Sept. 1924 with Fitzsimons & Connell Dredge & Dock Co., Chicago, Ill., as Field Engr. on construction of piers for large bascule bridge and later Draftsman on design of cofferdam. *TT 0.4: P 0.4.* Sept. 1924 to Jan. 1926 with Joe W. McCarthy, Chicago, as Gen. Supt. for Archt., schools, churches, etc. *TT 1.3: P 1.3: RC 0.7.* Jan. 1926 to date with Ulen & Co., of New York City, at Manizales, Colombia, as Designing Engr., in charge of design and construction of concrete buildings (ten units, estimated value \$2500 000), also estimating, etc. *TT 2: P 2: RC 2: D 2.* *TT 10.7: SP 4: P 6.7: RC 4.7: D 2.* Refers to F. A. Barnes, P. C. Campbell, J. F. Case, C. Crandall, W. E. Givens, R. P. Harkness, R. R. Mills, J. G. Roberts, T. S. Shepperd, J. R. Stubbins, L. C. Urquhart, J. T. Vawter.

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(13) HORNER, ARTHUR CLINTON, 74 New Montgomery St., San Francisco, Cal. (Age 39. Born Greenwich, N. J.) 1911 B. Sc. in Civ. Eng., Univ. of Pa. *TT 4: SP 4.* July 1911 to July 1912 Rodman, Levelman, etc. with Arcadia Orchards Co. and others. *TT 1: SP 1.* July 1912 to July 1913 Special Apprentice, Holt Mfg. Co., Stockton, Cal., mechanical work in constructing caterpillar tractors and gas engines. *TT 1: SP 1.* July 1913 to May 1918 Rodman, Transitman, Asst. Engr. and Gen. Foreman, and Dec. 1918 to Feb. 1920 Asst. Engr. and Gen. Foreman, M. of W. Dept., Southern Pacific R. R., Stockton, Cal. *TT 6: SP 1: P 5: RC 3.2: D 2.* May to Dec. 1918 with U. S. Army as Private and (4 months) 2d Lieut., Engrs. *TT 0.7: P 0.7.* Feb. 1920 to Feb 1921 Supt. of fertilizer mill, Pacific Manure & Fertilizer Co., Lovelock, Nev. *TT 1: P 1: RC 1.* June 1921 to June 1926 with City of Stockton, Cal., 1 year as Asst. Engr. on hydro-electric investigations and 4 years Chf. Bldg. Inspector. *TT 5: P 5: RC 4: D 1.* June 1926 to Aug. 1927 Engr., Portland Cement Association, Los Angeles, Cal., in charge of technical promotion work. *TT 1.2: P 1.2: RC 1.2.* Aug. 1927 to date Mgr., Western Div., National Lumber Mfrs. Association, San Francisco, Cal. *TT 0.3: P 0.3.* *TT 20.2: SP 7: P 13.2: RC 9.4: D 3.* Refers to R. E. Andrews, R. M. Beanfield, A. P. Denton, W. H. Kirkbride, R. W. Smith.

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(6) HOVEY, OTIS WADSWORTH, 282 Bellefield Ave., Pittsburgh, Pa. (Age 34. Born Chicago, Ill.) 1915 B. S., Dartmouth Coll. 1917 C. E., Thayer School of Civ. Eng. *TT 4: SP 4.* June 1915 to April 1916 with Suare & Triest Co., as Instrumentman and Draftsman on erection equipment for masonry towers of Hell Gate Bridge. *TT 0.9: SP 0.9.* May to Sept. 1916 Detailer, American Bridge Co., Gary, Ind. *TT 0.4: SP 0.4.* April to July 1917 Detailer, Westinghouse, Church, Kerr & Co., on concrete beam and girder work.

TT 0.3: SP 0.3. July 1917 to June 1919 (except Nov. 1917 to Jan. 1919 with U. S. Army, Aviation and Engrs.) Draftsman, Federal Ship Building Co., Kearny, N. J., on layout of plant. **TT 1.9: SP 1.6: P 0.3.** July 1919 to May 1920 with Fraser, Brace & Co., as Instrumentman and in charge of field party on construction of ship-repair plant at Rosebank, Staten Island. **TT 0.8: P 0.8.** May 1920 to May 1921 Office Engr. for Fraser, Brace, Ltd., Montreal, Que., Canada, tracing shipments and assisting on estimates of new work. **TT 1: P 1.** May 1921 to Nov. 1922 Bridge Inspector and in charge of repair work on bridges, Pittsburgh & West Virginia R. R. **TT 1.5: P 1.5: RC 1.** Nov. 1922 to May 1923 Bridge Designer, Long Island R. R., design computations for steel girders and concrete piers for grade crossing elimination through Richmond Hill, N. Y. **TT 0.5: P 0.5.** July 1923 to July 1925 Detailer, American Bridge Co., Ambridge, Pa., on buildings, bridges and machinery. **TT 2: P 2.** Sept. 1925 to Feb. 1926 Designing Draftsman, Allegheny County, Pa., stress calculations for anchor span of Liberty Bridge, and for continuous truss design of 3 spans (about 1 000 ft.) for Riverton Bridge. **TT 0.5: P 0.5.** Feb. to May 1926 assisted T. J. Wilkerson on design drawing for Ambridge-Woodlawn Bridge over Ohio River. **TT 0.2: P 0.2.** June 1926 to date Asst. Designing Engr., Bureau of Bridges and Structures, Dept. of Public Works, Pittsburgh, made stress calculations and assisted in determination of design and supervision of contract drawings for four bridges, including 380-ft. arch and 600-ft. cantilever. **TT 1.7: P 1.7: RC 1: D 1.** **TT 15.7: SP 7.2: P 8.5: RC 2: D 1.** Refers to C. W. Bryan, Jr., G. C. Clarke, V. R. Covell, R. Fletcher, G. H. Hutchinson, P. J. Reich, R. M. Riegel, C. M. Reppert, J. D. Stevenson, C. M. Vetter.

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(14) HOWE, WILLIAM EPIENETUS, 1020 College Ave., Topeka, Kans. (Age 37. Born Topeka, Kans.) Dec. 1908 to Jan. 1920 with City of Topeka, Kans., until April 1917 as Chainman and Instrumentman, then Asst. City Engr. in charge of field parties and Supt. of Constr. of pavements, sewers, sidewalks, bridges, etc.; Nov. 1918 (2 weeks, on leave) Asst. Camp Engr. on cantonment construction at Ft. Leavenworth, Kans., for Leavenworth Bridge Co., Contr. Engrs. **TT 11: SP 8.4: P 2.6.** Jan. 1920 to May 1921 County Engr., Neosho County, Kans., on construction and maintenance of state and county highways and bridges. **TT 1.4: P 1.4: RC 1.4.** May 1921 to April 1922 Res. Engr. for Black & Veatch, Cons. Engrs. on construction of water filtration plant at Topeka, and on power plant at Woodward, Okla. **TT 0.9: P 0.9: RC 0.9.** April 1922 to date Asst. City Engr., Topeka, in charge of field parties on preliminary surveys and construction of improvements. **TT 5.7: P 5.7: RC 5.7.** **TT 19: SP 8.4: P 10.6: RC 7.9.** Refers to W. E. Baldry, W. V. Buck, F. W. Epps, R. A. Finney, C. A. Haskins, L. B. Smith, N. T. Veatch, Jr., A. R. Young.

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(11) HUGHES, DAVID MORGAN, 700 Hall of Records, Los Angeles, Cal. (Age 23. Born Seattle, Wash.) Student in Civ. Eng., Univ. of California (Aug. to Dec. 1921 and June 1923 to Feb. 1924), and at Polytechnic Evening High School, Los Angeles (Aug. 1922 to June 1923 and Feb. 1925 to Feb. 1926). **TT 0.5: SP 0.5.** Oct. 1924 to June 1925 Jun. Map Draftsman, Southern California Telephone Co., Los Angeles. **TT 0.7: SP 0.7.** June 1925 to March 1926 Topographical Draftsman, Bureau of Power and Light, Los Angeles, tracing plats, plotting maps and profiles. **TT 0.8: SP 0.8.** March 1926 to date with County Surveyor's office, Los Angeles County, Cal., until July 1927 as Jun. Civ. Eng. Draftsman, on assessment diagrams, drafting, layout and checking, then Jun.-Senior Civ. Eng. Draftsman, acting as Chf. Draftsman, Assessment Div. **TT 2: SP 1.3: P 0.7.** **TT 4: SP 3.3: P 0.7.** Refers to W. F. Foster, A. Jones, H. M. Jones, O. D. Keese, T. I. Phelps, J. E. Rockhold, W. K. Runyon.

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(5) JARMAN, JUNIUS THOMAS, 2126 R St., Washington, D. C. (Age 23. Born Meridian, Miss.) 1927 B. E., Univ. of Miss. **TT 4: SP 4.** July 1927 to Jan. 1928 Jun. Cartographic Engr., U. S. Coast and Geodetic Survey, Dept. of Commerce, Washington, D. C. **TT 0.5: P 0.5.** **TT 4.5: SP 4: P 0.5.** Refers to L. O. Colbert, J. H. Dorroh, C. V. Hodgson, E. H. Pagenhart, R. S. Patton.

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(7) JEFFERIS, WAYNE BENNETT, P. O. Box 1031, Sioux City, Iowa. (Age 33. Born Wilmington, Del.) 1926 B. S. in C. E., and C. E., Bucknell Univ. **TT 4: SP 4.** Sept. 1913 to Sept. 1914 Instrumentman, Eastern Steel Co., Pottsville, Pa., office layout, plotting, etc. **TT 1: SP 1.** Sept. 1914 to Sept. 1917 Field Engr., Pittsburgh Crucible Steel Co., Midland, Pa., in charge of mechanical construction and foundation work for steel mills. **TT 2.6: SP 2: P 0.6.** 1917 to Sept. 1924 with Bethlehem Steel Co., at Lebanon, Pa. and (after March 1922) at Sparrows Point, Md., until March 1918 as Efficiency Engr., responsible for determining amounts of steam, water, air and gas used, to establish distribution costs, then Chf. Field Engr., responsible for completion on scheduled time and supervising construction of

power houses, warehouses, boiler installation, high-tension lines and steel buildings (3 years) and for erection and execution of dredging, steel and reinforced concrete buildings, piles for wharves and buildings, track work and field design (2¾ years). *TT 6.6: P 6.6: RC 6: D 0.6.* Sept. 1925 to June 1926 Asst. Prof., Bucknell Univ., Lewisburg. *TT 0.8: P 0.8.* Dec. 1926 to June 1927 Engr., The Atlantic Refining Co., Philadelphia, design of steel and wooden structures, drawing room layout. *TT 0.5: P 0.5: RC 0.3: D 0.3.* June to Dec. 1926 and June 1927 to date with The U. G. I. Contr. Co., Philadelphia, until Oct. 1927 as Field Engr. on reinforced concrete building erection, and road construction, then Asst. Erecting Engr., responsible for erection and assisting in management during construction of power house. *TT 1.4: P 1.4: RC 1.4: D 0.3.* *TT 16.6: SP 7: P 9.6: RC 7.4: D 0.9.* Refers to R. L. Faithorn, H. S. Hurlburt, F. E. Lamphere, J. P. Laws, I. N. Towne.

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(12) JOHNSON, OLIVER BERTRAND, 2104 Tenth Ave. West, Seattle, Wash. (Age 24. Born Seattle, Wash.) 1927 B. S. of C. E., Univ. of Wash. *TT 4: SP 4.* Jan. to Oct. 1923 and Jan. to Sept. 1924 Chairman, Northern Pacific Ry. Co. July 1926 to April 1927 Locator, Puget Sound Title Insurance Co. June to Oct. 1927 with U. S. Reclamation Service, until Aug. 1927 as Levelman, then Inspector on canal excavation and embankment. *TT 1.6: SP 1.6.* *TT 5.6: SP 5.6.* Refers to I. L. Collier, J. B. Hamilton, C. W. Harris, C. C. More, V. W. Russell, W. R. Young.

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(1) JONES, ROY CARADOC, Box 233, Balboa Heights, Canal Zone. (Age 40. Born Mt. Carmel, Pa.) 1905 to 1906 Chairman, Susquehanna Coal Co., Shamokin, Pa. *TT 1: SP 1.* 1906 to 1907 Instrumentman, Reading R. R. *TT 1: SP 1.* 1907 to 1918 with Panama Canal, 1 year as Levelman, then Jun. Engr., on triangulation and military survey of Canal Zone (3 years) and engineering studies, layout and construction of fortifications (7 years). *TT 11: SP 2: P 9: RC 5.5.* 1918 to 1921 Supt. of Constr., U. S. Food Products Corporation, Peoria, Ill., and New Orleans, La., on structural designs and construction. *TT 3: P 3: RC 1: D 1.* 1921 to 1922 Locating Engr., R. W. Hebard & Co., Panama, on highway work. *TT 1: P 1: RC 1.* 1922 to 1923 Supt. of Constr., B. & A. Co., Dayton, Ohio, and Chicago, Ill., building construction. *TT 1: P 1: RC 0.5.* 1923 to 1924 Designing Engr., Sinclair Oil Co., Philadelphia, Pa., on structural design. *TT 1: P 1: D 1.* 1924 to date Asst. to Dist. Engr., Panama Canal, being Engr. in charge of design and construction of fortification projects. *TT 4: P 4: D 4.* *TT 23: SP 4: P 19: RC 8: D 6.* Refers to J. S. Butler, J. G. Claybourne, M. E. Gilmore, E. B. Gore, R. W. Hebard, C. H. Hitchcock, A. Onderdonk, E. S. Randolph, C. O. Sherrill, P. M. Tebbs.

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(15) KENAN, WILDER, Austin Bridge Co., Dallas, Tex. (Age 30. Born Seymour, Tex.) 1918 B. S. in Civ. Eng., Agri. and Mech. Coll. of Tex. *TT 4: SP 4.* Oct. to Dec. 1918 with U. S. Army at Radio Reserve Officers' Training Camp. Jan. 1919 to Aug. 1920 Asst. Engr., Texas Pipe Line Co., on surveys and station layouts. *TT 1.7: P 1.7: RC 1.7.* Aug. 1920 to Aug. 1923 Res. Engr. on paving, sewers and water supply, and Aug. 1923 to June 1924 Asst. Engr. and Member of firm, R. G. Carraway Co. *TT 3.9: P 3.9: RC 3: D 1.* Sept. to Nov. 1924 Asst. Engr., Tulsa Boiler & Machinery Co. *TT 0.2: SP 0.2.* Dec. 1924 to date Asst. Engr., Austin Bridge Co., on design, estimating and contracting. *TT 3.2: P 3.2: RC 3.2: D 3.2.* *TT 13: SP 4.2: P 8.8: RC 7.9: D 4.2.* Refers to L. B. Bone, H. L. Luther, J. T. L. McNew, H. M. Matthews, J. C. Nagle, J. J. Richey, C. E. Zigenbein.

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(4) KING, OLIVER LINTON, 137 Keswick Ave., Glenside, Pa. (Age 28. Born Philadelphia, Pa.) 1922 B. S. in C. E., Bucknell Univ., Lewisburg, Pa. *TT 4: SP 4.* Dec. 1919 to June 1920 Draftsman, U. S. Gauge Co., Sellersville, Pa., layout work on low-pressure gauges. *TT 0.5: SP 0.5.* July 1922 to June 1923 Draftsman, Asst. Chf. Engr.'s office, Pennsylvania System, Pittsburgh, Pa. *TT 1: SP 1.* July 1923 to Nov. 1925 Senior Inspector, Pennsylvania Dept. of Highways, in charge of concrete road construction. *TT 1.5: P 1.5: RC 1.* Oct. 1926 to Jan. 1927 Asst. Engr. with Albright & Mebus, Civ. Engrs., Philadelphia, Pa., surveying, drafting and sewer construction. *TT 1.3: P 1.3: RC 0.3.* Feb. 1927 to date Asst. Engr. of Abington Township, Montgomery County, Pa., in charge of design and construction of roads and streets. *TT 1: P 1: RC 1.* *TT 9.3: SP 5.5: P 3.8: RC 2.3.* Refers to E. W. Clark, F. S. Friel, C. D. Loveland, C. F. Mebus, M. Y. Neely.

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(5) KNOWLES, CHARLES ALLEN, Richmond, Va. (Age 45. Born Buffalo, N. Y.) April 1902 to April 1904 Chairman and Rodman, Delaware, Lackawanna & Western Ry. Co. *TT 2: SP 2.* April 1904 to Feb. 1905 Rodman and Instrumentman, Buffalo & Susquehanna Ry. Co. *TT 0.8: SP 0.8.* Feb. to Aug. 1905 Instrumentman, New York, Pennsylvania & Southwestern Ry. Co. *TT 0.5: SP 0.5.* Aug. 1905 to Jan. 1908 with Jackson-McKernan

Constr. Co., as Instrumentman and Res. Engr. on steam and electric railroad construction in Connecticut, Rhode Island and New York, and on design of buildings and bridges. *TT 2.4: SP 0.4: P 2: RC 2: D 1.* Jan. 1909 to March 1910 Asst. Engr., Norwich, Colchester & Hartford Traction Co., on location and construction, and on design of buildings and bridges. *TT 1.2: P 1.2: RC 1.2: D 0.5.* March 1910 to Sept. 1912 with R. E. Mitchell, Civ. Engr., Willimantic, Conn., as Asst. Engr. on municipal construction and maintenance, construction of track and buildings for Connecticut State Institution, etc. *TT 2.6: P 2.6: RC 2.6: D 0.9.* Sept. 1912 to Jan. 1913 Draftsman, New York, New Haven & Hartford R. R. Co. *TT 0.3: SP 0.3.* Jan. to June 1913 Asst. Engr., United Fruit Co., in charge of party on railroad location in Central America. *TT 0.4: P 0.4: RC 0.4.* June 1913 to Feb. 1914 Draftsman and Designer, Central New England Ry. Co. *TT 0.7: SP 0.5: P 0.2: RC 0.2: D 0.2.* Feb. 1914 to June 1924 (except 5 months in 1918 1st Lieut., Engrs., U. S. Army) with Interstate Commerce Comm., Bureau of Valuation, as Recorder, Asst. Field Engr. and Senior Engr. on Federal valuation of railroads. *TT 10.3: SP 1.7: P 8.6: RC 2.* June 1924 to date with Chesapeake & Ohio Ry. Co., as Asst. Valuation Engr. (10 months) and Valuation Engr. *TT 3.7: P 3.7: RC 2.8 TT 24.9: SP 6.2: P 18.7: RC 11.2: D 2.6.* Refers to L. B. Allen, H. E. Hale, C. H. Moore, J. P. Nelson, C. H. Quimby, Jr., H. L. Ripley, E. F. Wendt.

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(3) KOCH, WALTER KURT, Mahopac, N. Y. (Age 24. Born Berlin, Germany.) 1924 B. S., and 1925 C. E., N. Y. Univ. *TT 4: SP 4.* Sept. 1924 to June 1925 Instructor in Civ. Eng., New York Univ. *TT 0.8: P 0.8.* March 1926 to date Draftsman, Westchester County Park Comm., Pleasantville, N. Y., in charge of a residency office. *TT 1.9: P 1.9: RC 1.9.* *TT 6.7: SP 4: P 2.7: RC 1.9.* Refers to A. Haring, E. G. Hooper, C. T. Schwarze, C. H. Snow, D. S. Trowbridge.

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(8) KULAS, FRANK AUGUST, 1009 Davis St., Evanston, Ill. (Age 26. Born Tama, Iowa.) 1926 B. of E., State Univ. of Iowa. *TT 4: SP 4.* July 1927 to date Jun. Engr., San. Dist. of Chicago, flow-meter work, computations of canal flows through turbines and dams. *TT 0.5: P 0.5. TT 4.5: SP 4: P 0.5.* Refers to L. W. Hall, R. B. Kittridge, H. P. Ramey, H. S. Ripley, E. L. Waterman.

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(1) KUNZE, WALTER WILLIAM, 176 Remsen St., Brooklyn, N. Y. (Age 46. Born Newark, N. J.) 1905 B. S., Cooper Union. 1910 C. E., Pol. Inst. of Brooklyn. Aug. 1903 to July 1905 Rodman, Long Island R. R. *TT 2: SP 2.* Aug. 1905 to May 1908 Asst. Engr., Brighton Beach Improvement, Brooklyn Heights R. R., in charge of Div. No. 2, construction of depressed section of Brighton Beach Line Brooklyn, N. Y.; work comprised about 1½ miles of open cut with concrete retaining walls, highway bridges and stations, built during heavy traffic; had charge of construction, inspection and field layout. *TT 2.8: P 2.8: RC 2.* May 1908 to date Engr.'s First Asst., Constr. Dept., Brooklyn Union Gas Co., being Asst. to Constr. Engr. on plant and building construction, field work, design and layout, specifications, plans and construction; has had direction of most of work (averaged \$1 000 000 annually, during 1927 about \$10 000 000), including plans, specifications, making contracts, field inspection of contractors' work and supervision of Company's forces; work includes heavy foundations (usually piled) for apparatus and buildings; boilers, generators, turbines, steam engines, etc.; brick and steel buildings, concrete docks and piers; fuel-handling conveyors and bridges, etc. *TT 19.8: P 19.8: RC 19.8: D 19.8. TT 24.6: SP 2: P 22.6: RC 21.8: D 19.8.* Refers to C. T. Bissell, F. L. Cranford, C. W. Hudson, J. C. Meem, R. L. Russell, C. W. Staniford, L. S. Stiles.

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(9) LARGE, GEORGE ELWYN, 776 South Remington Rd., Columbus, Ohio. (Age 28. Born Whigville, Ohio.) 1922 B. S. in C. E., Univ. of Wash. *TT 4: SP 4.* Graduate work at Univ. of Washington (March to June 1922) and at Ohio State Univ. (Sept. 1923 to March 1924). Nov. 1919 to Feb. 1920 Student Asst., Dept. of Eng. Drawing, Ohio State Univ. July 1922 to Sept. 1923 Eng. Fieldman with Toll Engr., Pacific Telephone & Telegraph Co., Seattle, Wash., on surveys, etc., acting as Instrumentman, Mapper, etc. *TT 1.2: SP 1.2.* Sept. 1923 to June 1924 Instructor, Dept. of Eng. Drawing, Ohio State Univ. *TT 0.8: P 0.8.* June 1924 to date Asst. Engr. on stress analysis and design, Buckeye Steel Castings Co., Columbus, Ohio, principally on railway-car truck frames (statically indeterminate truss structures of cast steel); supervised use of several precise methods of stress analysis, including lope deflection and Beggs deformeter; determines loadings and directs stress calculation for parts of special high-tonnage 6-wheel trucks for high center of gravity freight cars; handles special stress investigations and research. *TT 3.7: P 3.7: RC 2: D 1. TT 9.6: SP 5.2: P 4.4: RC 2: D 1.* Refers to J. Kylstra, C. C. More, C. T. Morris, J. R. Shank, C. E. Sherman, H. E. Spickard.

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(1) LIND, HENRY, Jr., 2847 Webb Ave., New York City. (Age 22. Born New York City.) 1927 B. S. in C. E., Manhattan Coll. *TT 4: SP 4.* Sept. 1927 to date Topographical Draftsman, Track Div., Board of Transportation, New York City. *TT 0.5: SP 0.5. TT 4.5: SP 4.5.* Refers to J. J. Costa, H. L. Hurd, R. H. Jacobs, M. Moreno.

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(9) LUCAS, JOHN JOSEPH, 2064 Lincoln Ave., Lakewood, Ohio. (Age 26. Born Cleveland, Ohio.) 1922 B. S. in C. E., Case School of Applied Sci. *TT 4: SP 4.* July to Oct. 1922 Field Clerk with J. C. F. Shafer, Gen. Contr., Cleveland, Ohio, on time and cost studies, estimating on garage and store building. *TT 0.4: SP 0.4.* Oct. 1922 to Jan. 1925 Asst. Engr., Div. of Water, Cleveland, on studies and design of piping, reinforced concrete work and hydraulic computations for coagulation basins, filter building, chemical house and mixing chambers at Baldwin filtration plant; hydraulic studies and design of wash-water-waste sewer and extensions to water distribution systems; determination of hydraulic gradient, etc. *TT 2.2: P 2.2: RC 1.4.* Jan. 1925 to date Prin. Asst. to Rollin F. MacDowell, Civ. and San. Engr., on preliminary reports, legislation, design and assessments for sewerage and water-supply systems (some named in application). *TT 3: P 3: RC 3: D 3. TT 9.6: SP 4.4: P 5.2: RC 4.4: D 3.* Refers to G. W. Hamlin, A. G. Levy, R. F. MacDowell, F. H. Neff, A. V. Ruggles, J. C. F. Shafer.

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(11) MACLEISH, GORDON GRANT, 1104 Brockman Bldg., Los Angeles, Cal. (Age 37. Born Edinburgh, Scotland.) 1912 C. E., Cornell Univ. *TT 4: SP 4.* Oct. 1912 to May 1914 Asst. Engr. with Olmsted & Gillelen, Los Angeles, Cal., acting as Draftsman, Instrumentman and on flood-control, sewerage and subdivision computations. *TT 1.6: SP 1.6.* May 1914 to June 1915 Surveyor, Wimmer Sand & Gravel Co., and other small jobs around Los Angeles. *TT 1.1: SP 1.1.* Sept. 1917 to June 1919 Office Asst., Southern California Edison Co., Los Angeles, drafting, computations on transmission lines, and (June-Oct. 1918) Chf. of Party on Shaver Lake survey. *TT 1.7: SP 1.7.* July 1919 to Oct. 1920 Asst. Engr. in charge of surveys, La Habra Heights Co., on triangulation and surveys (4 200 acres) at La Habra, Cal. *TT 1.4: P 1.4: RC 1.4.* Oct. 1920 to Oct. 1923 Engr., La Habra Heights Co. and La Habra Heights Mutual Water Co., on sub-division of land, design, construction and operation of irrigation system (600-ft. lift), operation and testing of electric pumping plants, building roads, design of reinforced concrete reservoir. *TT 3: P 3: RC 3: D 1.5.* Oct. 1923 to July 1924 Asst. Engr. with H. A. Schenck, in charge of field and office work on subdivisions in Los Angeles. *TT 0.8: P 0.8.* Aug. 1924 to Nov. 1925 Asst. Engr. with Reaburn & Bowen, Los Angeles, office computations and planning of subdivisions, water-works appraisal, comparative designs and cost estimates of retaining wall (max. height 50 ft.). *TT 1.3: P 1.3.* Nov. 1925 to March 1926 Office Asst., Eng. Dept., Los Angeles, on highway right-of-way computations, street profiles. *TT 0.4: P 0.4.* March 1926 to Nov. 1927 Engr., Monte Regis Corporation, Monterey, Cal., on subdivision of about 200 acres, record maps, plans, specifications and construction of roads and 20 000 ft. of sewer. *TT 1.7: P 1.7: RC 1.7. TT 17: SP 6.4: P 8.6: RC 6.1: D 2.5.* Refers to E. R. Bowen, F. Gillelen, F. A. Noetzel, D. L. Reaburn, S. Storow, O. A. Wait.

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(15) MCCRAY, HOWARD STOWE, 1040 Proctor St., Port Arthur, Tex. (Age 23. Born Corry, Pa.) 1926 B. S. in C. E., Pa. State Coll. *TT 4: SP 4.* July 1926 to date with the Texas Co., Port Arthur, Tex. 6 months, on construction surveying, 8 months Contr. Supervisor and past 7 months taking general refinery training course. *TT 1.8: SP 1.1: P 0.7: RC 0.7. TT 5.8: SP 5.1: P 0.7: RC 0.7.* Refers to M. Halpern, W. C. Mundt, R. O'Donnell, R. L. Sackett, E. D. Walker.

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(14) McDANIEL, WILLIAM SOLON, 321 Sherman, East, Hutchinson, Kans. (Age 27. Born Ulrich, Mo.) 1922 B. S. in Eng., Univ. of Mo. *TT 4: SP 4.* May 1922 to April 1926 with Illinois State Highway Dept., until March 1923 as Jun. Highway Engr. on plans, Res. Engr. on concrete paving, grading and bridges, and Chf. of survey party, and after March 1923 Asst. Highway Engr., being Res. Engr. on concrete paving, grading and bridges (1 year), Traveling Res. Engr. supervising six Res. Engrs. on 50 miles of concrete paving and 15 miles heavy grading and bridges ($\frac{1}{2}$ year) Asst. Dist. Constr. Engr., supervising concrete paving, grading and bridges ($1\frac{1}{2}$ years). *TT 3.8: P 3.8: RC 3.5: D 3.* April 1926 to date Asst. Div. Engr., Kansas Highway Comm., supervising construction and maintenance (under Div. Engr.). *TT 1.7: P 1.7: RC 1.7: D 1.7. TT 9.5: SP 4: P 5.5: RC 5.2: D 4.7.* Refers to W. V. Buck, O. J. Eldmann, J. A. Foster, Jr., J. A. Roby, I. E. Taylor.

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(9) McDONNELL, PORTER WILSON, 2227 Portsmouth Ave., Toledo, Ohio. (Age 24. Born Titusville, Pa.) 2½ years student, Coll. of Eng., Univ. of Michigan. TT 1: SP 1. Sept. 1922 to Sept. 1923 Inspector, Rodman, Instrumentman, Draftsman and Res. Engr., Michigan State Highway Dept. TT 1: SP 1. Feb. to May 1924 Instrumentman and Chf. of Party with W. E. Brown, Civ. and Landscape Engr., Miami Beach, Fla. TT 0.3: SP 0.3. May to Aug. 1924 Instrumentman, Washtenaw County (Mich.) Road Comm. TT 0.3: SP 0.3. Feb. to Oct. 1925 Chf. of Party with Fred L. Kuebler, Civ. Engr. and Surveyor, Toledo, Ohio. TT 0.7: P 0.7: RC 0.7. May to July 1926 Draftsman on highway plans, Pennsylvania State Highway Dept. TT 0.2: SP 0.2. July to Dec. 1926 Draftsman and Instrumentman with B. E. Briggs, Cons. Engr., Erie, Pa. TT 0.5: P 0.5. Oct. 1925 to May 1926 drafting on street-improvement plans, and Jan. 1927 to date Senior Engr., on paving, Div. of Eng., Toledo. TT 1.6: SP 0.5: P 1.1: RC 1.1. TT 5.6: SP 3.8: P 1.8: RC 1.8. Refers to A. R. Bailey, B. E. Briggs, C. T. Johnston, T. J. Mitchell, L. T. Owen, A. H. Smith, G. A. Taylor, C. E. Willacker, E. G. Willemine.

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(13) McGEE, HENDERSON ENGLAND, 204 East Clay St., Stockton, Cal. (Age 23. Born Tesla, Cal.) 1927 A. B., Coll. of Pacific. TT 2: SP 2. March 1925 to Sept. 1926 and June to Nov. 1927 Draftsman, Eng. Dept., Stockton, Cal., compiling data for condemnation suit, Instrumentman and Computer on survey, and Asst. Inspector on subway construction, and (after June 1927) on inspection of asphalt pavement construction, preliminary work on Stockton deep-water channel rights-of-way. TT 1.9: SP 1.9. Nov. 1927 to date Draftsman, U. S. Engrs., 2d San Francisco Dist., right-of-way location in connection with Stockton deep-water channel. TT 0.2: SP 0.2. TT 4.1: SP 4.1. Refers to J. S. Longwell, W. S. Post.

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(2) McLAUGHLIN, EDWARD DENNIS, 7 Allen Pl., Melrose, Mass. (Age 24. Born Melrose, Mass.) 1925 B. S. in C. E., Mass. Inst. Tech. TT 4: SP 4. Summer 1924 Eng. Asst., City of Melrose, Mass., surveying, lines, grades, etc. July 1925 to date Structural Draftsman, Boston & Maine R. R., design and drafting on steel, timber and concrete bridges and trestles. TT 2.5: SP 0.5: P 2: D 1. TT 6.5: SP 0.5: P 2: D 1. Refers to J. B. Babcock, 3d. H. L. Bowman, B. W. Guppy, P. Jones, C. M. Spofford.

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(10) MARKS, JOHN WILLIAM, Toccoa, Ga. (Age 38. Born Owensboro, Ky.) 1907 A. B., Hartford (Ky.) Coll. Sept. 1907-Feb. 1910 Rodman, March 1910-Feb. 1911 Transitman, and March 1911-May 1912 Res. Engr., Constr. Dept., Louisville & Nashville R. R. TT 4.7: SP 3.5: P 1.2: RC 1.2. June-Dec. 1912 Res. Engr., and Jan.-July 1913 Contr., Caribbean Constr. Co., New York City, on location and construction of railways in Hayti. TT 1.2: P 1.2: RC 1.2. Aug. 1913-Feb. 1914 in private practice at Hartford, Ky., surveying, highway engineering, street paving and sewer work. TT 0.6: P 0.6: RC 0.6: D 0.6. March 1914-July 1918 with Constr. Dept., Southern Ry. Co., until Feb. 1915 as Transitman, then Asst. Engr., being Chf. of Party on location (95 miles) and Res. Engr. in charge of construction (35 miles). TT 4.4: SP 1: P 3.4: D 3.4. Aug. 1918-March 1919 1st Lieut., and April-June 1919 Capt., Co. N, 22d Engrs., U. S. Army, on construction, maintenance and operation of light railways. TT 0.9: P 0.9: RC 0.9: D 0.9. Jan. 1921-Dec. 1922 with State Highway Dept. of Georgia, 9th Dist., until Dec. 1921 as Officer Engr., at Gainesville, Ga., in charge of office work, including plans, then Constr. Engr., in charge of location and construction, plans, estimates, etc. TT 2: P 2: RC 2: D 2. Jan. 1923-Dec. 1925 with Chesapeake & Ohio Ry., as Res. Engr. in charge of construction of additions and betterments on about 100 miles of main line and 150 miles of branches, getting up plans and estimates for side and yard tracks, water and cooling stations, turntables, etc. TT 2: P 2: RC 2: D 2. Jan. 1926 to date Chf. of Party, Southern Ry. Co., on location. TT 2: P 2: RC 2: D 2. TT 17.9: SP 4.5: P 13.4: RC 13.4: D 11. Refers to H. M. Church, B. L. Crenshaw, E. M. Durham, Jr., L. W. Frierson, F. Furlow, J. J. Gantt, J. A. Higgs, Jr., C. W. Johns, G. G. Lancaster, M. J. Macnabb, L. Moore, S. B. Slack, H. Stringfellow, J. E. Willoughby.

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(1) MATHIASSEN, HERBERT WALTER, 652 West 160th St., New York City. (Age 25. Born Keyport, N. J.) 1927 B. S. in Eng., Univ. of Va. TT 4: SP 4. Refers to F. Bagge, S. B. Williamson.

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(3) MATSUNAYE, WILLIAM SHAW, Jr., Medford, N. Y. (Age 23. Born Brooklyn, N. Y.) 1927 C. E., Rens. Pol. Inst. TT 4: SP 4. Summer 1926 Inspector, Constr. Dept., Long Island R. R. June 1927 to date Provisional Jun. Asst. Engr., New York State Highway Dept., on design of bituminous and concrete roads, being Asst. in charge of construction of highway through Monroe, N. Y. TT 0.6: SP 0.2: P 0.4: D 0.2. TT 4.6: SP 4.2: P 0.4: D 0.2. Refers to E. R. Cary, L. W. Clark, T. R. Lawson, P. C. Ricketts, M. V. Zabat.

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(7) **MICHAEL, ARTHUR CHILTON**, 4400 Virginia Park Ave., Detroit, Mich. (Age 25. Born Oakland, Md.) 1924 B. E., The Johns Hopkins Univ. *TT 4: SP 4* June to Sept. 1924 with Sanitary Reduction Co., Baltimore, Md., in charge of experimental plant for purifying liquid waste from garbage-reduction plant. *TT 0.2: SP 0.2*. Sept. 1924 to March 1925 Computer and Chf. of field party, Gibson Island Co., Baltimore, subdivision and general light construction work. *TT 0.5: SP 0.5*. April 1925 to date Instrumentman, Field Engr., in charge of field party, and Field Engr. of Constr., Dept. of Water Supply, Detroit, Mich. *TT 2.8: SP 1.1: P 1.7. TT 7.5: SP 5.8: P 1.7*. Refers to G. H. Fenkell, J. H. Gregory, A. B. Morrill, F. E. Simpson, F. H. Stephenson.

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(2) **MILBANK, REGINALD VENN**, Bristol, R. I. (Age 24. Born Momenca, Ill.) 1927 B. S. in C. E., Washington and Lee Univ. *TT 4: SP 4*. June to Dec. 1927 Leveler, Central R. R. of New Jersey. *TT 0.5: SP 0.5*. Dec. 1927 to date Jun. Asst. Engr. with Robinson & Steinman, Cons. Engrs., triangulation work and inspection on Mt. Hope Bridge. *TT 0.2: SP 0.2. TT 4.7: SP 4.7*. Refers to W. G. Brenneke, W. T. Lyle.

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(11) **MILLER, EARLE VALENTINE**, 1105 North Fifth St., Phoenix, Ariz. (Age 33. Born Portland, Ore.) Winters 1912-1914 Rodman and Chainman, Goodnoe Hills (Wash.) Irrigation Dist., Hewell, Gussit & Walsh, Engrs., and Northwestern Elec. Co., Portland, Ore. *TT 1.1: SP 1.1*. Spring 1916-June 1918 with Oregon Highway Comm., successively as Chainman and Costkeeper on road construction, Rodman, Levelman, Field Draftsman and Transitman, on highway location and (6 months) Office Draftsman, Div. Office, in charge of drafting. *TT 2.4: SP 1.9: P 0.5: RC 0.3*. July 1918 to Feb. 1919 Private, Corporal and Sergeant, U. S. Army, 472d Engrs., Western Detachment, San Francisco, Cal., topographical mapping, office triangulation, etc., non-commissioned officer in charge of survey. *TT 0.8: SP 0.2: P 0.6: RC 0.6*. Feb. to Aug. 1919 Field Draftsman, Association Oil Co., Avon, Cal., on plant construction, timekeeping, surveys, monthly estimates, computing and drafting. *TT 0.6: P 0.6*. Aug. to Nov. 1919 Draftsman, Pacific Gas & Elec. Co., Land and Tax Dept., San Francisco, on surveys and maps. *TT 0.3: SP 0.3*. Nov. 1919 to Jan. 1923 Office Engr., Pinal County Highway Comm., Florence, Ariz., on plans, specifications, and estimates for highway construction. *TT 3.1: P 3.1: RC 3.1: D 2*. Jan. 1923 to date with Arizona State Highway Dept., 6 months as Draftsman on plans and estimates, 2½ years Chf. Draftsman and last 2 years Engr. of Plans. *TT 5: P 5: RC 4.5: D 4.5. TT 13.3: SP 3.5: P 9.8: RC 8.5: D 6.5*. Refers to M. O. Bennett, J. B. Girard, W. W. Lane, L. C. Lashmet, G. L. McLane, C. C. Small.

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(9) **MILLER, PAUL DeFOREST**, 2840 Rockwood Pl., Toledo, Ohio. (Age 51. Born in Washington Township, Ind.) 1899 Ph. B., Earlham Coll., Richmond, Ind. June 1901 to date with Pennsylvania Lines West of Pittsburgh, on maintenance and construction, after 1904 in responsible charge, as follows: June 1901 to June 1909 Asst. on Engr. Corps; June 1909 to Feb. 1910 Acting Asst. Engr., C. & P. Div.; March 1910 to Feb. 1918 Asst. Div. Engr., Marietta Div.; since Feb. 1918 Asst. Div. Engr., Toledo Div. *TT 26.6: SP 3: P 23.6: RC 23.6: D 23.6*. Refers to G. Champe, L. T. Owen, R. R. Paine, A. H. Smith, D. Y. Swaty.

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(1) **MILONE, MICHAEL EDWARD**, 2583 Third Ave., New York City. (Age 26. Born New York City.) Past 5 years (evenings) student in engineering, Coll. of City of New York. Feb. 1920 to March 1922 Chainman, March 1922 to July 1925 Transitman, and July 1925 to date Chf. of Party on computations, etc., with Earl B. Lovell, New York City, on building construction, etc., July 1927 appointed City Surveyor; work has also included checking baselines for Board of Transportation and setting building lines (subway construction) (1925); laying out community of several hundred houses in Throggs Neck, establishing street and lot lines and grades (summer and autumn 1926), setting grillages for new buildings, locating column centers on lofty buildings, subdivision surveys, profiles, establishing baselines, etc. *TT 8: SP 5.3: P 2.7: RC 2.7*. Refers to H. M. Bergman, R. E. Goodwin, H. W. Lesh, F. O. X. McLoughlin, C. M. Mapes.

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(7) **MOEHLMAN, WILLIAM FREDERICK**, 440 West Johnson St., Madison, Wis. (Age 30. Born Madison, Wis.) 1922 B. S., Univ. of Wis. *TT 4: SP 4*. Summers 1919-1921 and June 1922 to July 1923 with Wisconsin Highway Comm. as Draftsman on plans, and Inspector on construction, roads and structures, Spooner Div. office (1919), Surveyor and Location Engr. in charge of party, Superior Div. office (1920-1921) and (after June 1922) Asst. Engr., same office, in charge of materials and use of materials for road construction, some

responsible charge of design for special structures and for road location. *TT 1.1: P 1.1: RC 0.6: D 0.2.* July to Oct. 1923 Job Engr., Engstrom & Co., Wheeling, W. Va., in responsible charge of layout on building construction and of materials, cost accounts, estimates, etc. *TT 0.3: P 0.3: RC 0.3.* Oct. 1923 to Sept. 1926 Constr. Engr., Oliver Iron Min. Co., Coleraine, Minn., in charge of engineering and plans of developing of open-pit iron mine operation, including plans for removing overburden and ore by steam shovel and heavy railroad equipment, plans for railroad approaches and layout and supervision for all work, plans and layout for transmission lines, buildings, bridge, culverts and coal docks, supervision of village water-supply system, well, pipes, water tank, reservoir, pumping plant, and design of small structures and a concrete reservoir. *TT 2.8: P 2.8: RC 1.8: D 0.4.* Sept. 1926 to Feb. 1927 Location Engr., Wisconsin Highway Comm., Superior, in responsible charge of parties, selecting routes and directing survey work. *TT 0.5: P 0.5: RC 0.5.* Feb. 1927 to date Dist. Engr., Armco Culvert Mfrs. Association, Middletown, Ohio, in charge of all engineering and promotional work in Wisconsin and Michigan, including recommendation and supervision for pipe and culvert installation, investigation of culvert problems, writing specifications, etc. *TT 1: P 1: RC 1. TT 8.7: SP 4: P 4.7: RC 4.2: D 0.6.* Refers to M. J. Adams, G. F. Daggett, H. J. Kuelling, J. R. MacLean, L. S. Smith.

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(1) **MOHR, ERIK**, Tesdopsvej 84, Copenhagen, Denmark. (Age 26. Born Copenhagen, Denmark.) 1923 C. E., Tech. Soc. High School, Copenhagen, Denmark. *TT 4: SP 4.* April 1924 to May 1925 Cons. Engr., Copenhagen, Denmark, on reinforced concrete buildings, foundations, coal stores, retaining walls, deck and roofing, supervised field work. *TT 1.1: P 1.1: RC 1.1: D 1.1.* May 1925 to March 1927 Designer, Hydr. Div., Elec. Bond & Share Co., New York City, on design and checking of reinforced concrete substations, foundations, retaining walls, chimneys, power-house, etc., investigation and checking of stresses in reinforced concrete arch bridge, checking of stresses (earth, concrete and steel) in power-house dam, earth computation. *TT 1.8: P 1.8: D 1.8.* May 1927 to date Designer with Monberg & Thorsen, Contrs., Copenhagen, on reinforced concrete bridge foundation (hydraulic) caissons, form work for reinforced concrete structure, checking and investigating reinforced concrete pontoons, design of special hoisting and transportation mechanism, laying railroad tracks for heavy transportation, estimating and surveying. *TT 0.8: P 0.8: D 0.8. TT 7.7: SP 4: P 3.7: RC 1.1: D 3.7.* Refers to G. Blaauw, W. E. Brown, P. L. Hornby, W. S. Merrill, H. H. Steinhauser, H. R. Stocker.

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(3) **MONSON, GEORGE FULLER**, 116 Chenango St., Binghamton, N. Y. (Age 25. Born Deposit, N. Y.) Aug. 1922 to June 1925 student C. E. Course and (1 year) Coll. of Fine Arts, Dept. of Archt., Syracuse Univ. *TT 5: SP 1.5.* June to Oct. 1924 Recorder on topographic survey, Dept. of Interior, U. S. Geological Survey, Washington, D. C. Sept. 1925 to April 1926 Teacher of Industrial Art, Devereaux Schools, Berwyn, Pa. *TT 0.6: SP 0.6.* April to Oct. 1926 Rodman and Transitman, Erie Railroad Co., Susquehanna, Pa. *TT 0.5: SP 0.3: P 0.2.* Oct. 1926 to date Jun. Asst. Engr., Bureau of Highways, New York State Dept. of Public Works, Binghamton, N. Y. *TT 1.2: SP 1.2: D 0.1. TT 4.2: SP 4: P 0.2: D 0.1.* Refers to C. T. Fisher, H. L. Jacot, L. Mitchell, A. T. Paine, W. C. Ruland, J. H. Thomas.

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(13) **MORTON, CARROLL TRACY**, 64 Pine St., San Francisco, Cal. (Age 29. Born Washington, Pa.) 1923 B. S. in C. E., Pa. State Coll. *TT 4: SP 4.* Sept. 1922 to Oct. 1926 with The Foundation Co., New York City, engaged as follows: Sept. to Nov. 1922 and Dec. 1924 to April 1925 Estimator and Designer, Pittsburgh Dist. office, and July to Oct. 1926 on similar work, Atlanta Dist. office; Nov. 1922 to July 1924 Asst. Field Engr. and July to Sept. 1924 Chf. Field Engr., Philo (Ohio) power plant, on instrument work, quantity recording, bills of materials for Purchasing Dept., and general routine engineering work; Sept. to Dec. 1924 Engr. and Supt. on harbor dredging for Wheeling Steel Corporation, Harmarville, Pa.; April to Aug. 1925 Inspector and Expeditor on stone bridge masonry for Allegheny County, Pa.; Aug. 1925 to July 1926 Chf. Field Engr. on reconstruction of Atlanta, Ga., terminal facilities, and (after April 1926) at Tampa, Fla., on pile driving and wharf construction for Florida Portland Cement Co. *TT 4.1: P 4.1: RC 0.5.* Oct. 1926 to date Engr., Healy-Tibbitts Constr. Co., San Francisco, Cal., estimating, design, contract negotiations and executive work. *TT 1.2: P 1.2: RC 0.7: D 0.5. TT 9.3: SP 4: P 5.3: RC 1.2: D 0.5.* Refers to A. Allaire, F. W. Douglas, G. R. Johnson, R. M. Morton, H. E. Squire, E. D. Walker, J. J. Walsh, I. G. Webb.

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(1) **MURPHY, GEORGE SCALLON**, 605 West 187th St., New York City. (Age 22. Born New York City.) 1927 B. S. in C. E., Manhattan Coll. *TT 4: SP 4.* July to Sept. 1927 with James L. Harrop, appraisal engineering on water system of Scranton Gas & Water Co.

TT 0.2: SP 0.2. Sept. 1927 to date Instructor in Eng., Eng. Dept., Manhattan Coll.
TT 0.5: P 0.5: RC 0.5. *TT 4.7: SP 4.2: P 0.5: RC 0.5.* Refers to B. S. Bascome, J. J. Costa, J. L. Harrop, M. Moreno.

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(13) **MURRAY, HOWARD SLATER**, 116 Tenth Ave., San Francisco, Cal. (Age 29. Born San Francisco, Cal.) 1921 B. S., Coll. of C. E., Univ. of Cal. *TT 4: SP 4.* July 1921 to March 1922 Jun. Engr., California Highway Comm., San Francisco, Cal., drafting. *TT 0.7: SP 0.7.* March to June 1923 Draftsman, Loith Iron Works, Los Angeles, Cal. *TT 0.3: SP 0.3.* June 1923 to Sept. 1925 Engr.-Designer, Philip Friedman & Son, Inc., Los Angeles. *TT 2.3: P 2.3: RC 2.3.* March to May 1927 Draftsman, Llewellyn Iron Works, Los Angeles. *TT 0.2: SP 0.2.* Sept. 1925 to Sept. 1926 and May to Oct. 1927 Engr.-Designer, with Dyer Bros., Structural Steel Contrs., San Francisco. *TT 1.5: P 1.5: RC 1.5.* *TT 9: SP 5.2: P 3.8: RC 3.8.* Refers to F. J. Amweg, C. Derleth, Jr., H. D. Dewell, E. D. Francis, E. M. Knapik.

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(9) **NOYES, WILLIAM JAMES**, 147 Islington St., Toledo, Ohio. (Age 27. Born Toledo, Ohio.) March 1918 to Aug. 1919 Rodman and Levelman, Union Oil & Gas Co., Chatham, Ont., Canada. *TT 1.5: SP 1.5.* Aug. 1919 to Nov. 1920 Instrumentman, Toledo (Ohio) Edison Co. *TT 1.2: SP 1.2.* Nov. 1920 to Nov. 1921 Field and Office Engr., Woodlawn Cemetery Association, Toledo, in charge of developments of road and sewer construction. *TT 1: SP 1.* April 1922 to March 1924 Sr. Asst. Engr., Dept. of Parks and Boulevards, Toledo, in charge of field parties on surveys, boulevard and building construction and office work. *TT 1.8: P 1.8: RC 1.8.* April to Sept. 1924 Chf. of Party with George A. Johnson, Cons. Engr., New York City, on topography and land surveys for water supply project at Flint, Mich. *TT 0.6: P 0.6: RC 0.6.* Oct. 1924 to Jan. 1925 Chf. Topographer and Chf. of Party on real-estate development, with S. H. Wright, Cons. Engr., Hendersonville, N. C. *TT 0.2: P 0.2: RC 0.2.* Jan. to April 1925 with Mees & Mees, Cons. Engrs., Charlotte, N. C., as Chf. Topographer on hydro-electric power development in Western North Carolina, preliminary surveys for construction of roads, dam, etc. *TT 0.2: P 0.2: RC 0.2.* April 1925 to July 1926 with George Kershaw, Cons. Engr., Hendersonville, N. C., in complete charge of engineering office at Asheville, N. C., design and construction of roads and street paving, sewer and waterworks, dams and bridges and surveys. *TT 1.2: P 1.2: D 1.2.* Aug. 1926 to date with Div. of Eng., Toledo, designing and supervising construction of paving plans, drainage. *TT 1.5: P 1.5: RC 1.5.* *TT 9.4: SP 3.7: P 5.7: RC 4.4: D 1.3.* Refers to F. S. Childs, H. R. Faison, E. J. McManus, L. T. Owens, G. N. Schoonmaker, A. H. Smith, S. H. Wright.

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(10) **OAKLEY, THOMAS DENTON**, 5222 Sixth Court South, Birmingham, Ala. (Age 30. Born Rome, Tenn.) 1923 B. S. in Civ. Eng., Univ. of Miss. *TT 4: SP 4.* Summer 1920 Rodman with W. S. Redding, Louisville, Miss. Summer 1922 Surveyman, U. S. Govt., Mississippi River Comm., Vicksburg, Miss. June 1923 to Aug. 1924 Rodman, Illinois Central R. R. *TT 1.2: SP 1.2.* Aug. 1924 to March 1925 Res. Engr., Bragman Bluff Lumber Co., New Orleans, La., in charge of wharf construction, Puerto Cabezas, Nicaragua, ordered material, made estimates, directed drilling and blasting, inspected material, etc. *TT 0.5: P 0.5: RC 0.5.* March to June 1925 Asst. Engr., C. A. D. Bayley Constr. Co., Atlanta, Ga., on railroad construction, Puerto Cabezas, in charge of construction of camp, drag-line operations, made estimates, etc. *TT 0.2: P 0.2: RC 0.2.* June to Oct. 1925 Field Engr., Woods Bros. Constr. Co., Gulfport, Miss., in charge of field work for contractor on Harrison County sea wall made estimates, set grade stakes, directed work. *TT 0.3: P 0.3.* Oct. 1925 to March 1926 Res. Engr. with W. S. Hawkins, Gulfport, making plans and in charge of field work on municipal and highway work in Harrison County, Miss. *TT 0.4: P 0.4: RC 0.4.* March 1926 to March 1927 Asst. Engr. in charge of field work, with H. D. Shaw, Gulfport, established lines and grades for street work, designed sewer systems, and made estimates on \$750 000 municipal project. *TT 1: P 1: RC 1.* March 1927 to date Designing Draftsman, Alabama Power Co., Birmingham, Ala., designing and detailing reinforced concrete for hydro-electric plants, including making plans, calculating forces, and detailing steel for continuous girders, brackets and headworks. *TT 0.9: P 0.9.* *TT 8.5: SP 5.2: P 3.3: RC 2.2.* Refers to E. W. Constantine, J. W. Cotlin, J. H. Dorroh, W. S. Hawkins, H. K. Higgins, H. D. Shaw, R. B. Shepard, Jr.

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(1) **PHILLIPS, REGINALD FRANK**, 150 West 105th St., New York City. (Age 39. Born Malin-in-Lee, England.) 1912 B. S. in C. E., Carnegie Inst. Tech. *TT 4: SP 4.* Summer 1910 Transitman, Pittsburgh Rys. Co. June 1912 to Sept. 1913 Shop Inspector and Draftsman, American Bridge Co. *TT 1.2: SP 1.2.* Dec. 1913-Jan. 1915 Concrete Inspector, cement testing for State of Pennsylvania. *TT 1.2: SP 1.2.* Feb. 1915-Dec. 1917 with Mesta Machine Co., Pittsburgh, Pa., on design of drying ovens, pattern storage buildings, etc., layout of open-

hearth furnace and floors. *TT 1.9: P 1.9: RC 1.9.* Jan. 1918 to Aug. 1919 with U. S. Army in France and Russia in charge of workmen on repair of wooden trestles on Marmansk, R. R. *TT 1.5: P 1.5: RC 1.5.* Sept. 1919–Feb. 1921 Designing Engr., Atlantic Refining Co., Pittsburgh, designing buildings and laying out pipe lines. *TT 1.5: P 1.5: D 1.5.* March to Nov. 1921 Engr., Pacific Elec. Rys. Co., on design and layout of sub-stations. *TT 0.7: P 0.7: D 0.7.* Nov. 1922 to Jan. 1923 Draftsman drawing plans for Jacks Run Bridge, and April 1924 to April 1925 Res. Engr. on same bridge, also Designer, for N. S. Sprague, Cons. Engr., Pittsburgh. *TT 1.2: SP 0.2: P 1.* Jan.–July 1923 estimating and designing brick and reinforced concrete chimneys, Rust Eng. Co., Pittsburgh. *TT 0.5: P 0.5: D 0.5.* Aug. 1923–March 1924 with Mesta Machine Co., as Supt. of Constr., construction details of a residence. *TT 0.7: P 0.7: RC 0.7.* April 1925 to Feb. 1926 on design and drafting railroad shop construction, D. P. Robinson Co., New York City. *TT 0.7: SP 0.5: P 0.2: RC 0.2.* Feb. 1926 to May 1927 on design and layout of factory building, railroad platform and tracks, Fisk Rubber Co., Federal Plant. *TT 1.2: P 1.2: D 1.2.* *TT 16.5: SP 7.2: P 9.3: RC 5.1: D 4.2.* Refers to V. R. Covell, C. E. Long, F. M. McCullough, W. E. Mott, N. S. Sprague, T. J. Wilkerson.

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(3) POLLARD, CHARLES JASPER, 2022 Liberty Bank Bldg., Buffalo, N. Y. (Age 37. Born Alexander, N. Y.) 1913 A. B., Harvard Coll. *TT 4: SP 4.* April 1916 to Oct. 1921 Engr., and Oct. 1921 to date member of firm, Ellsworth, Barrows & Reeves (Ellsworth, Barrows & Co.), Buffalo, N. Y., until May 1917 on valuation of industrial and public utility properties in City of Buffalo, field and statistical work. Oct. 1917 to Oct. 1921 on general engineering, surveys, plans, appraisals of public utility and industrial properties, principally Western New York Utilities Co., supplying electrical energy in Orleans, Niagara and Monroe Counties, N. Y., and since Oct. 1921 in responsible charge of similar work. *TT 11.3: P 11.3: RC 6.2.* *TT 15.3: SP 4: P 11.3: RC 6.2.* Refers to G. C. Andrews, G. E. Barrows, R. L. Fox, C. A. Ingersoll, J. G. Little, H. E. Rixinger, F. J. Tresise.

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(11) QUIGLEY, JOHN SCHREINER, 857 Eleventh St., San Diego, Cal. (Age 26. Born Minneapolis, Minn.) 1 year student Coll. of Eng., and completed course in reinforced concrete (Evening School), Univ. of Minnesota. March 1923 to April 1924 and March 1925 to Nov. 1926 with Jacobson Eng. Co., Minneapolis, Minn., until April 1924 as Draftsman, tracing and detailing, on designs for small hydro-electric power plants, March to Nov. 1925 Engr. on location, layouts for machinery and designs for mill buildings, and installation of paper machinery and construction of warehouse and office buildings, N. W. Paper Co., Cloquet, and after Nov. 1925 Reinforced Concrete Designer, design and drawings, proposed hydro-electric power plant on Mississippi River. *TT 2.5: SP 1.1: P 1.4: D 1.4.* April to Aug. 1924 and Dec. 1924 to Feb. 1925 Draftsman with Gage & Vanderbilt, Archts., Minneapolis, on tracing and detailing plans for dwellings, and structural plans for a school house. *TT 0.5: SP 0.5.* Aug. to Dec. 1924 Designing Draftsman, Hormel Packing Co., Austin, Minn., designing and detailing, plans for boiler house and plant buildings. *TT 0.4: P 0.4: D 0.4.* Jan. 1927 to date Reinforced Concrete Designer with Thomas H. King, San Diego, Cal., on designing and drafting, bridges, culverts, tanks, etc. *TT 1: P 1: D 1.* *TT 4.4: SP 1.6: P 2.8: D 2.8.* Refers to J. S. Bates, W. M. Butts, I. C. Hess, T. H. King, C. B. Sadler.

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(1) QUINN, MARC, Manizales, Colombia. (Age 25. Born Newark, N. J.) Sept. 1921–June 1923 student in Civ. Eng., Washington State Coll. *TT 1: SP 1.* June–Sept. 1919 Inspector, Dept. of Public Works, Newark, N. J., on separation of garbage materials. *TT 0.3: SP 0.3.* June 1920–July 1921 and Aug. 1923–Sept. 1924 Recorder on surveys, etc. (1 year) supervising sounding parties setting dredging ranges, etc. (1 year) and Sept. 1924–Jan. 1925 and March 1925–June 1926 Surveyor, Office Engr., Pacific Entrance Sec., Dredging Div., on hydrographic surveys and excavation estimates, all for Panama Canal. *TT 3.6: SP 2: P 1.6.* Jan. to March 1925 with Commission reporting to John G. Claybourn, Cons. Engr., on harbor development and pier construction for Costa Rican Govt. *TT 0.3: P 0.3.* June to Nov. 1926 Surveyor on road construction, and Nov. 1926 to date Field Engr. and Archt.'s Representative on concrete buildings (\$2 000 000) in Manizales, Colombia for Ulen & Co. *TT 1.5: SP 0.5: P 1: RC 1.* *TT 6.7: SP 3.8: P 2.9: RC 1.* Refers to P. C. Campbell, J. G. Claybourn, L. H. Lockwood, R. Nebolsine, J. T. Vawter.

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(7) REUTER, WILLIAM ROBERT, 758 Newhall St., Milwaukee, Wis. (Age 33. Born Milwaukee, Wis.) 1922 B. S., Univ. of Wis. *TT 4: SP 4.* June 1912 to Jan. 1913 Machine Worker, Chicago, Milwaukee & St. Paul R. R., locomotive assembly. *TT 0.5: SP 0.5.* Jan. 1913 to Oct. 1916 Draftsman, and July to Oct. 1917 Detailer on hydraulic turbine design, tests on hydraulic turbine, Allis-Chalmers Mfg. Co., Hydr. Dept. *TT 4: SP 4.* April to Oct.

1919 Surveyor, Wisconsin Highway Comm., on surveys, drafting and inspection on highways, bridges and culverts. July to Oct. 1921 and July 1922 to Jan. 1923 with Milwaukee Sewerage Comm. until Oct. 1921 as Engr. Inspector; July to Sept. 1922 Inspector on tunnel construction, topography; Sept. 1922 to Sept. 1925 Res. Engr., and Sept. 1925 to July 1927 Div. Engr., on tunnel contracts; after July 1927 Asst. Engr. in charge of all construction and maintenance. *TT 5.6: SP 0.3: P 5.3: RC 5.3. TT 14.1: SP 8.8: P 5.3: RC 5.3.* Refers to F. B. Hatton, T. C. Hatton, A. L. Kurtz, R. R. Lundahl, H. F. Nicol, D. W. Townsend, G. R. Young.

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(1) RHODES, ARNOLD EDWARD, 11 Sarawal St., Parnell, Auckland, N. Z. (Age 38. Born Gisborne, N. Z.) New Zealand Government's Engineers Registration Certificate. 1911 B. Sc., Pol. Inst. of Eng., New Zealand. Feb. 1908 to Nov. 1911 Asst. Engr., Scott Bros., Ltd., on electric construction, geodetic surveying, plans and estimates of power and lighting stations, pumping stations, pipe lines, water systems, etc. *TT 3.7: SP 3: P 0.7: D 2.* Nov. 1911 to Dec. 1916 Chf. Engr., Craddock & Co., Ltd., in charge of drawing office on plans and specifications for and on general construction of power schemes and pipe lines, on construction of high tension transmission lines, design and construction of marine machinery, survey of ships and manufacturing and erecting steel and concrete bridges, etc., road formations, drainage, etc. (£2 000 annually). *TT 5: P 5: RC 5: D 5.* 1916 to 1919 with Royal Air Force in Egypt and Palestine. Nov. 1919 to May 1925 in private practice as Civ. and Cons. Engr., making estimates and surveys of hydro-electric schemes, pipe line construction, preparing plans and estimates for bridge construction, road formation, sewerage, general engineering, etc. *TT 3.5: P 3.5: RC 3.5: D 3.5.* 1923 to Dec. 1924 Technical Engr., Vacuum Oil Co. Pty. Ltd., Australia, lubrication research, lecturing on civil and general engineering also on road formations and construction, taking plant audits and efficiency trials on railways and municipal power plants, etc. *TT 1.6: P 1.6: RC 1.6.* Jan. 1925 to date Engr. for New Zealand Electrical Testing Institute, conducting efficiency and test trials on electrical systems, traction and power trials, and submitting analysis of tests of general technology on engineering equipment, etc. *TT 3: P 3: RC 3. TT 16.8: SP 3: P 13.8: RC 13.1: D 10.5.* (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

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(1) RIEFFEL, MARC AURELE, 452 Riverside Drive, New York City. (Age 22. Born Algiers, Algeria.) 1927 B. S. in C. E., Harvard Eng. School. *TT 4: SP 4.* July 1927 to date Asst. in Eng. with Parsons, Klapp, Brinkerhoff & Douglas, New York City, on computations, some drafting. *TT 0.5: SP 0.5. TT 4.5: SP 4.5.* Refers to H. J. Hughes, L. J. Johnson, E. W. Maloney.

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(9) ROBISON, WILFORD BAXTER, 744 Nesselwood Ave., Toledo, Ohio. (Age 26. Born Toledo, Ohio.) 1923 B. S. C. E., Purdue Univ. *TT 4: SP 4.* Summer 1922 Draftsman, W. J. Sherman Co., Cons. Engrs., Toledo, Ohio. June 1923 to Sept. 1924 Engr. for Roy C. Bryant, Gen. Contr., Franklin, Ind., in responsible charge of field work, part of time Supt. of Constr. *TT 1.3: SP 0.3: P 1: RC 0.8: D 0.2.* Sept. 1924 to Feb. 1925 Structural Steel Detailer and Checker with Hetherington & Berner, Indianapolis, Ind. *TT 0.4: SP 0.3: P 0.1: D 0.1.* Feb. to Dec. 1925 Asst. Mgr., Structural Steel Dept., Insley Mfg. Co., Indianapolis; work involved sales, supervision of plans and fabrication, and design of structural steel. *TT 0.8: P 0.8: RC 0.5: D 0.3.* Dec. 1925 to April 1927 with Fuller & McClintock, Cons. Engrs., New York City, as Draftsman and Designer on activated-sludge sewage-disposal works, West Palm Beach, Fla. *TT 1.3: SP 0.9: P 0.4: D 0.4.* April 1927 to date Office Engr., Dept. of Public Service, Div. of Eng. and Constr., Toledo, checking paving plans and preparing construction estimates for \$3 000 000 program. *TT 0.9: SP 0.2: P 0.7: RC 0.6: D 0.1. TT 8.7: SP 5.7: P 3: RC 1.9: D 1.1.* Refers to W. H. Insley, W. A. Knapp, J. R. McClintock, L. T. Owen, W. J. Sherman, A. H. Smith.

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(12) ROGERS, FLOYD EARL, 2901 South Thirteenth St., Tacoma, Wash. (Age 37. Born Verona, Mo.) Jan. 1907 to Aug. 1908 Chainman, Rodman and Inspector, Spokane, Portland & Seattle Ry. *TT 1.6: SP 1.6.* Aug. 1908 to March 1909 with Grant Smith & Co., on Seattle water supply pipe line, running a camp at Renton, Wash. *TT 0.6: SP 0.6.* Oct. 1909 to Aug. 1910 with Oregon-Washington Ry., Deschuttus River, Ore., McDonald, Nelson & McDonald, Contrs., in charge of four camps. *TT 0.8: P 0.8: RC 0.8.* Aug. 1912 to March 1913 Field Engr., Metaline Falls Lead & Zinc Co., located narrow-gauge railroad transmission line, traced underground workings. *TT 0.6: P 0.6.* March 1913 to July 1914 with C. P. Ry., Bassano & Swift Current Cutoff, in responsible charge of work (5 miles); located 90 miles from Medicine Hat, Alberta. *TT 1.3: P 1.3: RC 1.3.* Oct. 1915 to Jan. 1916 Asst. Engr., Alaska Gastinpaui Mining Co., Thane, Alaska, on topography for watershed, and

tunnel work. *TT 0.2: SP 0.2.* March to July 1917 Asst. Supt. of ore mill and Field Engr., Metaline Falls Lead & Zinc Co. *TT 0.3: P 0.3.* June to Sept. 1923 drafting, Weyerhaeuser Timber Co., Tacoma, Wash. *TT 0.2: SP 0.2.* Sept. 1923 to date with City of Tacoma, Wash., as follows: Sept. 1923 to Feb. 1925 drafting, Cushman Dam; Feb. to June 1925 in full charge of 1¼ miles of road construction and construction of concrete bases for twenty-three steel towers; June to Dec. 1925 Res. Engr. on North and Henderson Bay Transmission Line Crossings, having full charge of construction and laying out work (one-half in salt water), consisting of 22 steel towers on concrete bases (55 to 115 ft. high); Dec. 1925 to Sept. 1926 drafting on design of 5 miles of pipe line, reservoir, and Sept. 1926 to Nov. 1927 Res. Engr., North End Reservoir (25 000 000 gal.) and standpipe (1 250 000 gal.) in full charge of construction and laying out work and standpipe; since Nov. 1927 on paper location of 3 miles of 34-in. pipe line partly through heavy city traffic. *TT 4.5: SP 2.2: P 2.3. TT 10.2: SP 4.8: P 5.4: RC 2.2.* Refers to L. Crosby, V. Gongwer, W. A. Kunigk, W. C. Sadler, J. L. Stannard.

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(9) **ROSS, MARION DRAKE**, 712 Coppin Bldg., Covington, Ky. (Age 43. Born Lexington, Ky.) 1904 to 1906 Rodman, Cincinnati Southern R. R. *TT 2.5: SP 2.5.* 1906 to 1911 Instrumentman, and 1911 to 1912 Asst. Engr., Lexington & Eastern Ry. *TT 6: SP 4: P 2: RC 2.* 1912 to 1915 Asst. Engr., Dept. of Public Roads, on location and construction of highways. *TT 3: P 3: RC 3.* 1915 to date Dist. Engr., Kentucky Highway Dept., in charge of maintenance and construction (16 counties). *TT 12.5: P 12.5: RC 12.5. TT 24: SP 6.5: P 17.5: RC 17.5.* Refers to J. F. Grimes, C. W. Lovell, W. A. Newman, R. R. Pyne, D. V. Terrell, E. N. Todd, R. B. Wiley.

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(12) **RUPP, GEORGE WELLINGTON**, 418 East Sixteenth St., Olympia, Wash. (Age 32. Born Aurora, Ill.) 1921 B. S. in E. E., Univ. of Wash. *TT 4: SP 4.* Prior to 1911 with U. S. Survey crews on construction of earth dams, riprap, buildings. 1911 Electrician and Draftsman, Byllesby & Co., Chicago, on construction and installation of steam-electric plant at Worland, Wyo. *TT 0.5: SP 0.5.* 1912 Electrician, Mountain States Telephone Co., Worland. *TT 0.2: SP 0.2.* 1913 Engr.'s Asst., Big Horn Canal Association, partial relocation of canal, and construction of 10-mile syphon near Worland, acting as Rodman, Asst. Levelman and Inspector. *TT 0.4: SP 0.4.* Sept. 1913 to April 1914 Instructor, Grade School, Worland, Wyo. July 1914 to July 1915 Contr., on design, construction and wiring of houses in Glendale, Cal. *TT 1: SP 1.* Aug. 1915 to June 1917 Electrician, Hawkinson & Rupp, wiring buildings, installing small electric-lighting plants, etc. June 1917 to Aug. 1919 with U. S. Army until May 1918 as Private, Sergeant, Cadet, training at Berkeley, Cal.; (3 months) then at Second Aviation Instruction Center, Tours, France, some engineering work in connection with relocation of hangars, machine shops, etc., and design, construction and maintenance equipment, buildings, camp facilities, roads and streets; after June 1918 First Lieut., design and construction of railroad facilities, additional machine shops, foundations for special equipment, communication and signaling systems, etc., at Third Aviation Instruction Center, Issoudun, France, bridge design, track location and alignment, etc.; expansion of water, electric-generating and distribution systems, and (after Jan. 1919), dismantling camps, appraising and disposing of material, consolidating camps, etc. *TT 2.2: SP 0.4: P 1.8: RC 1.6: D 1.1.* Took short technical course, Univ. of Paris, France. Sept. 1919 to June 1920 Electrician. July to Oct. 1920 Engr., Belgium Steel Syndicate, survey and report on development of East Belgium water-power resources. Oct. 1920 to March 1921 Student and Instructor, Univ. of Washington. April 1921 to date (except July to Nov. 1924 on survey and study, etc. of industrial and power plants in Europe) with Dept. of Public Works of Washington, first as Engr. on inventory, appraisal, inspection and design of electric, telegraph, telephone and water systems, involving research work, reports, recommending improvements, testifying as expert witness, etc., and since Sept. 1925 Chf. Engr., in charge of all engineering and accounting work, with jurisdiction over engineering and accounting for operations of public utilities and common carriers in the State; work involves field investigations, design of utility plants, specifications, recommendations, reports, testifying as expert witness, etc. *TT 6.5: P 6.5: RC 6.5: D 3.7. TT 14.8: SP 6.5: P 8.3: RC 7.9: D 4.8.* Refers to E. M. Chandler, A. F. Chittenden, H. L. Gray, C. E. Magnusson, C. R. Moore, C. C. More, R. K. Tiffany.

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(1) **SADLOW, JOSEPH FRANK**, 8428 Eighty-Sixth Road, Woodhaven, N. Y. (Age 31. Born New York City.) 1918 to 1921 with Clinton & Russel, Archts., as Supt. in charge of construction on buildings in New York City and Jersey City, N. J. *TT 3: SP 0.5: P 2.5: RC 2.5: D 3.* Feb. 1921 to Nov. 1924 Constr. Supt. with Montrose & Morris, Archts. and Bldrs., in charge of work at 118 Montague St., Brooklyn, and (after Sept. 1922) with P. J.

Brennen, Bldr., in charge of public school construction in New York City. *TT 3.9: P 3.9: RC 3.9.* Nov. 1924 to Feb. 1926 with G. A. Fuller Bldr., as Asst. Constr. Supt., Expeditor and Inspector on R. R. Bldg. & Loan Bldg., and apartment houses. *TT 1.3: SP 1.3.* Feb. 1926 to date with Crow, Lewis & Wick, Archts., as Arch. Supt., on Aero Laboratory, New York Univ., Second National Bank, Hoboken, N. J., Trust Co. of North Jersey, St. Mary's, St. Vincent, Wycoff and Jewish (Brooklyn) Hospitals. *TT 1.9: P 1.9: RC 1.9: D 1.* *TT 10.1: SP 1.8: P 8.3: RC 7.8: D 4.* Refers to A. C. Grandy, E. W. Hammer, L. H. Lewis, F. Meister, G. A. Noska, G. Simpson.

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(1) SAMOILOFF, ALEXANDER ALEXANDER, 113 East Thirtieth St., New York City. (Age 25. Born Moscow, Russia.) Student in Civ. Eng., Cornell Univ. (1 year) and Harvard Eng. School (4 years). *TT 2.5: SP 2.5.* Aug. 1926 to Jan. 1927 Draftsman, Lynn (Mass.) Gas & Elec. Co. *TT 0.5: SP 0.5.* Jan. 1927 to Jan. 1928 drafting, Dept. of Steel Design, Stone & Webster, Inc., Boston, Mass. *TT 1: SP 1.* *TT 4: SP 4.* Refers to G. M. Fair, L. J. Johnson, F. C. Millsbaugh, G. F. Swain, H. M. Turner.

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(10) SARGENT, JOHN DAVIS, Main St., Mt. Airy, N. C. (Age 56. Born Highgate, Vt.) 1898 to 1902 with Fletcher Granite Co., Woodbury, Vt., cutting granite, architectural drafting, Foreman of granite cutters and Gen. Supt. of cutting plant. *TT 4: SP 1: P 3: RC 2: D 1.* 1902 to 1909 with Woodbury Granite Co., Hardwick, Vt., as Gen. Supt. of cutting and quarrying of granite, supervising drafting room, designing and detailing architectural granite, designing, purchasing and installing cutting machinery and equipment, power plants, cutting plant buildings, yard railway tracks, overhead cranes, saws, etc. *TT 7: SP 2: P 5: RC 4: D 1.* 1910 to date with North Carolina Granite Corporation, Mt. Airy, N. C., as Supt. of quarries and cutting of architectural granite, curbing, paving blocks and crushed granite; selection, purchasing and installation of modern granite cutting and quarrying machinery, stripping development and equipment of large quarries, designing and erecting cutting mills, locating and constructing railway tracks and sidings, installation of compressor plant with pipe lines for distribution about the works; complete water system, laying out and developing localities and building homes for workmen, also locating, erecting and equipping large granite-crushing mill; general development of property and general supervision of quarrying and cutting in plant; past 8 years Pres. of Company. *TT 18: SP 4: P 14: RC 12: D 2.* *TT 29: SP 7: P 22: RC 18: D 4.* Refers to M. B. Case, C. E. Chase, W. J. Douglas, F. M. Masters, R. Modjeski, J. L. Nagle, G. S. Webster.

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(9) SCHROTH, HERBERT HENRY, 2844 May St., Cincinnati, Ohio. (Age 34. Born Cincinnati, Ohio.) 1916 C. E., Univ. of Cin. *TT 4: SP 4.* June 1911 to June 1916 (vacations, etc.) and June 1916 to March 1918 Draftsman (3 months) and Apprentice (9 months), Ahrens Iron Works Co.; Laborer, Rodman, Instrumentman and Inspector (4 years) and (after June 1916) Draftsman on highway design, Highways Div., Eng. Dept., Cincinnati, Ohio. *TT 1.7: SP 1.7.* March to Dec. 1918 with U. S. Army, Air Service, until Oct. 1918 as Private, being Student and Instructor in Schools of Aerial Photographic Reconnaissance at Cornell Univ. and Langley Field, Hampton, Va., and after Oct. 1918 2d Lieut., being Officer in Chg., Photographic Sec. No. 37, Call Field, Wichita Falls, Tex., aerial photographic surveying and map making. *TT 0.8: SP 0.6: P 0.2: RC 0.2.* Feb. 1919 to May 1920 Valuation Engr., The Western Appraisal Co., Cincinnati, industrial valuations, land, mines, trackage, buildings and equipment, field and office work. *TT 1.3: P 1.3.* May to Dec. 1920 and March 1921 to date Chas. V. Maescher & Co., Contra. and Engrs., Cincinnati, until Dec. 1920 as Supt. in charge of construction on excavations, roadways, sewers, foundations, and retaining walls, and since March 1921 Civ. Engr. in responsible charge of construction and design, concrete construction of building foundations, reinforced concrete floor and roof work, retaining walls, paving and special industrial and landscaping structures. *TT 7.6: SP 0.8: P 6.8: RC 6.8: D 6.8.* *TT 15.4: SP 8.4: P 7: RC 7: D 6.8.* Refers to J. R. Biedinger, E. K. Ruth, H. Schneider, H. F. Shipley, C. Wuest, Jr.

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(9) SMART, JOSEPH ROBERT, 747 Oak St., Columbus, Ohio. (Age 32. Born Baltimore, Ohio.) 1920 B. C. E., Ohio State Univ. *TT 4: SP 4.* Sept. 1916 to Sept. 1917 Asst., Eng. Corps, Pittsburgh, Cincinnati, Chicago & St. Louis R. R., acting as Instrumentman. *TT 1: SP 1.* June 1920 to date with Bureau of Water-Works Extension, Columbus, until June 1921 as Transitman, acting as Instrumentman, then Asst. Engr., being Res. Engr. on construction of 1 046-ft. 5-span steel bridge, power house, laundry and 3 miles of macadam highway; design of shop, garage, water-re-carbonation plant and addition to pumping station; writing specifications. *TT 7.7: SP 1: P 6.7: RC 4.6: D 2.1.* *TT 12.7: SP 6: P 6.7: RC 4.6: D 2.1.* Refers to C. B. Cornell, C. B. Hoover, C. T. Morris, J. C. Prior, J. R. Shank, C. E. Sherman.

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(14) SMITH, ALVIN CORDON, Box 788, Scottsbluff, Nebr. (Age 37. Born Lyons, Nebr.) 1914 B. Sc. C. E., Univ. of Nebr. TT 4: SP 4. June to Dec. 1913 Field Engr. and Asphalt Chemist on paving construction, with Abel & Roberts, Contrs., and Clark E. Mickey, Cons. Engr., Lincoln, Nebr. TT 0.5: P 0.5: RC 0.5. June 1914 to Jan. 1918 Engr., Asphalt Chemist and Material Supt. for Abel & Roberts, Contrs., on paving construction. TT 1.6: P 1.6: RC 1.6. Jan. 1916 to April 1918 Engr. and Gen. Mgr., field and office, Abel Constr. Co., paving construction. TT 2.2: P 2.2: RC 2.2. April 1918 to Jan. 1919 with U. S. Army, at Officers' Training School, Ft. Monroe, Va., and with A. E. F.; commissioned Lieut., Coast Artillery. TT 0.7: P 0.7: RC 0.7. Feb. 1919 to date Contr. and Engr. of public works, water and sewer construction, in Cheyenne and Laramie, Wyo., Scottsbluff, Alliance and Chappel, Nebr. TT 8: P 8: RC 8. TT 17.1: SP 4: P 13.1: RC 13.1. Refers to E. W. Bennison, J. A. Bruce, W. B. Freeman, L. A. Goines, C. E. Mickey.

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(4) SPEIGHT, ALFRED CAMPBELL, 1704 Washington St., Wilmington, Del. (Age 39. Born Brooklyn, N. Y.) Jan. 1907 to May 1910 Chainman, Rodman and Instrumentman, Long Island R. R. Co., Jamaica, N. Y. TT 3.3: SP 3.3. May 1910 to June 1913 Axeman and Rodman, New York Board of Water Supply on Catskill Aqueduct. TT 3.1: SP 3.1. June to Aug. 1913 Inspector of trunk sewer construction, Sewer Dept., Brooklyn, N. Y. TT 0.3: SP 0.3. Aug. 1913 to Sept. 1914 Inspector of regulating, grading and paving, Dept. of Highways, Queens Borough, on road construction. TT 1: SP 1. Sept. 1914 to May 1917 and Jan. 1919 to Jan. 1920 Jun. Engr., Public Service Comm., 1st Dist., on subway construction, in charge of field party. TT 3.6: SP 1: P 2.6: RC 1. May 1917 to Jan. 1919 with U. S. Army, until Sept. 1917 at Officers' Training Camp, Plattsburgh, N. Y., and Infantry School for Officers, Ft. Sill, Okla., then Second and First Lieut., 306th Machine Gun Battery, 77th Div., A. E. F., and Commanding Officer, Co. D, 33d Machine Gun Battery, 11th Div. Jan. to June 1920 Statistician, War Dept., on cost analysis, being Asst. to Statistical Expert. TT 0.5: P 0.5. July to Dec. 1920 Field Engr. and May to Aug. 1921 Chf. of Party, Skagit River Power Development, Seattle, Wash., on surveys, construction estimating, and (after May 1921) stadia survey in mountains to determine reservoir capacity. TT 0.8: P 0.8: RC 0.3. Dec. 1920 to May 1921 Computer, Sutter Basin Co., Grafton, Cal., subdivision. TT 0.4: P 0.4. Sept. to Dec. 1921 Field Engr. with Cory Bros., Engrs., on factory construction. TT 0.3: P 0.3: RC 0.3. Feb. to Sept. 1922 Senior Civ. Engr., Interstate Commerce Comm., on railroad valuation. TT 0.7: P 0.7. Sept. 1922 to Aug. 1926 Dist. Engr., New York Steam Corporation, New York City in charge of field and resident engineers, installing mains in city street. TT 3.9: P 3.9: RC 3.9. Aug. to Nov. 1926 Constr. Engr. and Gen. Labor Foreman, Wark Co., Philadelphia, Pa., on building construction. TT 0.3: P 0.3. Nov. 1926 to Jan. 1927 Shift Boss, cofferdam, Howland Hook-Elizabeth Bridge for Triest Co. TT 0.2: P 0.2: RC 0.2. Jan. 1927 to date Designing Engr., Hercules Powder Co., Wilmington, Del., on plant design. TT 1: P 1: D 1. TT 19.4: SP 8.7: P 10.7: RC 5.7: D 1. Refers to T. J. Carlile, A. J. Daino, S. D. Dodge, W. C. Donnelly, R. H. Jacobs, G. Paaswell, H. Seymour, G. A. Taber, J. C. Thoma.

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(1) SPENCER, CHARLES BURR, 55 West Eleventh St., New York City. (Age 41. Born New York City.) 1907 B. A., and 1910 C. E., Columbia Univ. TT 4: SP 4. 1910 to 1912 Engr. with Receivers, Patterson & Co., on Bull Hill Tunnel. TT 2: SP 2: D 2. 1912 to 1917 Engr. in charge of foundation work, Underpinning & Foundation Co., New York City. TT 5: P 5: RC 5: D 5. 1917 to 1919 Lieut. and Capt., Ordnance Reserve Corps, U. S. Army. 1919 to date Vice-Pres., Spencer, White & Prentiss, Inc. TT 9: P 9: RC 9: D 9. TT 20: SP 6: P 14: RC 14: D 16. Refers to H. L. Connell, F. S. Parker, G. Perrine, E. A. Prentiss, Jr., E. M. Van Norden, L. White.

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(1) SPERL, AUGUST GEORGE, Winnebago Road, Tuckahoe, N. Y. (Age 36. Born New York City.) 1910 to 1914 with Mason & Hanger, on Catskill Aqueduct, surveying ($\frac{1}{2}$ year), Foreman ($1\frac{1}{2}$ years) and Asst. to Supt. (1 year). TT 3: SP 1.5: P 1.5. 1914 to 1915 Subway Work Foreman, United Realty & Improvement Co. TT 1: SP 1. 1915 to 1916 Foreman and Supt. on William St. Subway, and 1917 to 1918 Supt. on Camp Meade construction, with Smith, Hauser & MacIsaac. TT 3: SP 1: P 2: RC 2. 1916 to 1917 and 1918 to 1919 Supt., foundation work, Underpinning & Foundation Co. TT 2: P 2: RC 2. 1919 to date Gen. Supt., foundation work, Spencer, White & Prentiss, Inc. TT 8: P 8: RC 8: D 8. TT 17: SP 3.5: P 13.5: RC 12. Refers to H. L. Connell, C. Goodman, R. W. Greenlaw, H. T. Immerman, E. A. Prentiss, Jr., L. White.

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(15) STARKIE, JOHN LITTLE, P. O. Box 790, Brownwood, Tex. (Age 44. Born Worcester, Mass.) 1902 to June 1905 student in engineering, Kansas Univ. *TT 1: SP 1.* June 1905 to Dec. 1913 Chalmers, Tapeman, Rodman, Instrumentman and Res. Engr., Kansas City, Mexico & Orient Ry., on construction in Kansas, Oklahoma, Texas and Mexico. *TT 8.4: SP 4: P 4.4: RC 4.4.* Dec. 1913 to July 1924 Draftsman and Office Engr., Gulf, Colorado & Santa Fe Ry., Asst. Engr. and Asst. Chf. Engr., U. S. R. R. A., Group 6, Southwestern Region, in responsible charge of work of draftsmen and assistant engineers on maintenance, operation and valuation of over 2 000 miles of main-line railway, one-third of time on design of important work. *TT 10.5: SP 1.5: P 9: RC 9: D 3.* July 1924 to date Mgr.-Lessee and Operator of large open-pit quarry and rock-crushing plant producing railway ballast and screenings, special railway engineering inspections, investigations and reports for Gulf, Colorado & Santa Fe Ry. *TT 3.5: P 3.5: RC 3.5.* *TT 23.4: SP 6.5: P 16.9: RC 16.9: D 3.* Refers to C. F. W. Felt, G. W. Harris, E. L. Myers, J. A. Norris, E. N. Noyes, J. T. Vawter.

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(9) STEEG, HENRY BELL, 304 City Hall, Indianapolis, Ind. (Age 27. Born Indianapolis, Ind.) Registered Prof. Civ. Engr., State of Indiana. 1924 B. S. C. E., Purdue Univ. *TT 4: SP 4:* Jan. 1919 to Sept. 1920 and summer 1921 Deputy Surveyor, Hendricks County, Danville, Ind., surveying, drafting, inspecting road and bridge construction. *TT 1.6: SP 1.6.* Summers 1922 and 1923 Draftsman, and June 1924 to Oct. 1925 Asst. Engr., City Plan Comm. of Indianapolis, Ind., on thoroughfare plan, traffic studies, city plan problem, etc. *TT 1.3: P 1.3: RC 1.3.* Oct. 1925 to Nov. 1926 Civ. Engr. with Harry O. Garman, Cons. Engr., Indianapolis, on appraisals and valuations of public utilities, such as electric, water and telephone. Nov. 1926 to April 1927 Asst. Engr., American Ry. Association, conducting air-brake tests in laboratory of Purdue Univ. *TT 0.4: P 0.4.* April to June 1927 Civ. Engr. with Charles Hurd, Cons. Engr., Indianapolis, inspecting and testing crushed stone for sewage-disposal plants. *TT 0.2: P 0.2: RC 0.2.* June 1927 to date Asst. Engr., City Plan Comm., Indianapolis, on engineering work in connection with city planning problems. *TT 0.7: P 0.7: RC 0.7: D 0.7.* *TT 9.3: SP 5.6: P 3.7: RC 3.3: D 0.7.* Refers to H. O. Garman, W. K. Hatt, G. E. Lommel, J. W. Moore, F. Newcomer, L. V. Sheridan.

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(10) STEPHENSON, LEONIDAS DACOSTA, Jr., State Highway Comm., Raleigh, N. C. (Age 21. Born McCullers, N. C.) 1927 B. S. in Civ. Eng., N. C. State Coll. *TT 4: SP 4.* Sept. 1927 to date Rodman, North Carolina State Highway Comm. *TT 0.5: SP 0.5.* *TT 4.5: SP 4.5.* Refers to C. L. Mann, H. Tucker.

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(1) STILSON, BURTON A, 138 Columbus Drive, Tenafly, N. J. (Age 25. Born Glenbrook, Conn.) 1924 B. S. in C. E., Union Coll. *TT 4: SP 4.* June 1924 to Jan. 1926 Jun. Asst. San. Engr., New York State, on examination of plans and inspection of proposed sites for sewerage and sewage- and waste-disposal works. *TT 1.6: SP 1.6.* Jan. 1926 to date with Fuller & McClintock, New York City, until April 1927 as Inspector on construction of sewers, pump station and sewage-disposal works, then Engr. in Chg. of construction of sewage-disposal plant. *TT 2.1: P 2.1: RC 0.8.* *TT 7.7: SP 5.6: P 2.1: RC 0.8.* Refers to T. Horton, D. W. Howes, H. Ryon.

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(1) STUFFLER, LEE RAYMOND, 100 Parkway Road, Bronxville, N. Y. (Age 43. Born Joliet, Ill.) July 1907 to Jan. 1911 Supt. of Bldg. Constr., Frederick G. Hawley Co., Joliet, Ill., bridge and building construction (\$300 000). *TT 3.6: P 3.6: RC 3.6.* March 1912 to Feb. 1918 Supt. of Constr., The Hercules Co., New Orleans, La., on levee and embankment work (\$750 000). *TT 5.9: P 5.9: RC 5.9.* Oct. 1919 to Oct. 1927 Supt. of Constr., until Jan. 1926 with Bronx Parkway Comm., then with Westchester County Park Comm., Bronxville, N. Y., park construction, buildings, bridges (\$65 000 000). *TT 8: P 8: RC 8.* *TT 17.5: P 17.5: RC 17.5.* Refers to E. Anderberg, J. Barnett, C. A. Garfield, A. G. Hayden, R. M. Hodges, L. G. Holleran.

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(12) SWIGERT, CHARLES FREDERICK, Care, Pacific Bridge Co., Portland, Ore. (Age 65. Born Swanton Village, Ohio.) June 1881 to date with Pacific Bridge Co., since 1907 as Pres., on engineering and construction work in all capacities; also 1892 to 1898 Cons. Engr., Albina Light & Water Co.; 1892 to 1905 with City & Suburban Ry. Co. as Chf. and Cons. Engr. and later Vice-Pres. and Mgr., at present Director of successor, Portland Elec. Power Co.; has acted in consulting and advisory capacity for many companies. *TT 46.6: SP 8: P 38.6: RC 38: D 10.* Refers to P. Hart, D. C. Henny, G. C. Mason, B. S. Morrow, J. P. Newell, M. E. Reed, J. C. Stevens.

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(13) SZYLKO, HIERONIM STEFANOVICH, 1134 Haight St., San Francisco, Cal. (Age 37. Born Wilno, Poland.) 1914 M. E., Tech. Coll. in Russia. 1927 A. B., Civ. Eng. Dept., Stanford Univ. TT 4: SP 4. 1910 to 1914 (while student) Rodman, Chainman, Instrumentman and Draftsman in Russia. June 1914 to July 1918 Dist. Engr., Viatka Prov., Govt. of Russia, highway construction, schools and hospitals. TT 4.1: P 4.1: RC 2.1: D 2. 1918 to 1920 various engineering work at Vladivostok, Siberia. TT 0.5: P 0.5. May-Dec. 1921 with Staheeff Co., Vladivostok, as Chf. of five topographical parties, on geological expedition, Sachalin Island. TT 0.7: P 0.7: RC 0.7. April-Dec. 1922 with Kunst & Albers Co., Vladivostok, on cableway, preliminary survey, Sachalin Island. TT 0.7: P 0.7: RC 0.7. Jan. 1924 to Sept. 1926 Laborer, Foreman and Draftsman, Universal Steel Products Co., San Francisco, Cal. TT 2: SP 2. Oct. 1926 to June 1927 student, Stanford Univ. Aug. to Oct. 1927 Asst. Engr., Southern Pacific Co., Western Div., Oakland, Cal. TT 0.3: P 0.3: RC 0.3. Oct. 1927 to Jan. 1928 Surveyor, Board of Park Commrs., San Francisco. TT 0.2: P 0.2. TT 12.5: SP 6: P 6.5: RC 3.8: D 2. Refers to C. Moser, E. A. Nickel, L. B. Reynolds, E. C. Thomas, C. B. Wing.

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(5) VANNORT, BERTRAM ORLANDO, Perry Point, Md. (Age 27. Born Port Deposit, Md.) 1928 B. S., Univ. of Mich. TT 4: SP 4. March 1918 to March 1921 and Summer 1925 Draftsman, Pennsylvania R. R., acted as Rodman, Instrumentman, Chf. of Party and Engr. in charge of construction and current engineering projects, etc. TT 3: SP 3. March to Sept. 1921 Draftsman, Chemical Warfare Service, in charge of drawing plans for a report and on design of plants. TT 0.5: SP 0.3: P 0.2: RC 0.2. June 1924 to Feb. 1925 Chf. of Party, Pennsylvania State Highway Dept., in charge of rights-of-way, preliminary and construction surveys. TT 0.7: P 0.7: RC 0.7. TT 8.2: SP 7.3: P 0.9: RC 0.9. Refers to C. O. Carey, C. T. Johnston, C. O. Wisler.

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(1) VERMAELEN, JOSEPH FRANCIS, 10802 One-Hundred and First Ave., Richmond Hill, N. Y. (Age 22. Born New York City.) 1927 B. S. in C. E., Manhattan Coll. TT 4: SP 4. July 1927 to date Track Draftsman, Track Div., Board of Transportation, New York City. TT 0.6: SP 0.6. TT 4.6: SP 4.6. Refers to J. J. Costa, H. L. Hurd, R. H. Jacobs, M. M. Moreno.

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(7) VOGT, ROBERT CARL, 106 East Liberty St., Ann Arbor, Mich. (Age 29. Born Saginaw, Mich.) 1922 B. S. of Civ. Eng., Univ. of Mich. TT 4: SP 4. Summer 1921 Instrumentman, City of Saginaw, Mich. June 1922 to date with Holland, Ackerman & Holland, Ann Arbor, Mich., as Res. Engr. of hydro-electric plants, survey of sites, estimating construction costs, designing, installing machinery and equipment. TT 5.5: P 5.5: RC 1.7: D 0.3. TT 9.5: SP 4: P 5.5: RC 1.7: D 0.3. Refers to C. E. Bottum, J. H. Cissel, R. K. Holland, M. J. Orbeck, H. E. Riggs.

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(2) WAGHORNE, ALBERT CHARLES, 18 Edward St., Belmont, Mass. (Age 30. Born Melrose, Mass.) 1918 B. S. in Civ. Eng., Tufts Coll. TT 4: SP 4. Dec. 1918 to June 1919 Designer of reinforced concrete, with Fay, Spofford & Thorndike, Cons. Engrs., Boston, Mass. TT 0.5: P 0.5: D 0.5. June 1919 to Jan. 1920 Designer of steel and reinforced concrete, Harry M. Hope Eng. Co., Boston. TT 0.6: P 0.6: D 0.6. Jan. 1920 to March 1922 Designer, Estimator and Constr. Supt., P. J. Kennedy & Co., Inc., Gen. Contrs., Holyoke, Mass. TT 2.2: P 2.2: RC 1.8: D 0.4. March 1922 to date Chf. Draftsman, Engr., Estimating and Contr. Engr., Palmer Steel Co., Inc., Springfield, Mass., since April 1924 in charge of Boston office. TT 6: P 6: RC 4.7: D 1.8. TT 13.3: SP 4: P 9.3: RC 6.5: D 2.8. Refers to H. P. Burden, L. A. Estes, B. W. Guppy, R. W. Horne, W. F. Pike, M. A. Reidy, B. A. Rich.

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(2) WATERMAN, FRANK EDDY, City Hall, Providence, R. I. (Age 58. Born Providence, R. I.) July 1887 to Aug. 1894 with J. A. Latham, C. E. and Surveyor, Providence, R. I., during 1887 as Rodman, Chainman and Transitman, then (2 years) in charge of highway layout and construction, and after 1890 on surveys, real-estate development, construction of mills, power plants, pile foundations, etc. TT 7: SP 2: P 5: RC 6: D 6. 1894 to 1923 with Frank E. Waterman, Frank E. Waterman Co., Pres. and Treas., Waterman Eng. Co., Civ. Engrs., Providence, municipal engineering, mill and power plant construction, highways, sewers, water supply, real-estate development; also 1914 to 1924 Div. Engr. in charge of

Reservoir Div., Water Supply Board, Providence, Scituate Reservoir; 1924 to 1927 City Engr., Providence, on bridges, water, sewers and highways, and since 1927 Commr. of Public Works, Providence, in charge of Eng., Highway, Water, Sewer, Bridge, Forestry, Incinerator, Sidewalk Inspection Depts., etc. *TT 34: P 34: RC 34: D 20. TT 41: SP 3: P 38: RC 38: D 26.* Refers to R. L. Bowen, F. B. Marsh, W. W. Peabody, G. T. Seabury, F. E. Winsor.

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(4) **WELLS, JOHN FOREMAN**, 315 Valley Road, Merion, Pa. (Age 26. Born Philadelphia, Pa.) 1926 B. S. in C. E., Univ. of Pa. *TT 4: SP 4.* Sept. 1926 to date with McClintic Marshall Co., has detailed on office buildings, church, theatre, electric railway and at present on layouts for New York Hudson River Bridge. *TT 1: SP 1. TT 5: SP 5.* Refers to W. H. Chorlton, D. S. Gendall, Jr., W. G. Grove, M. G. Littlefield, R. MacMinn, R. A. Pendergrass, F. P. Witmer.

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(11) **WEST, RAY BENEDICT**, Utah Agricultural Coll., Logan, Utah. (Age 45. Born Ogden, Utah.) 1904 B. S. in C. E., Utah Agri. Coll. 1906 C. E., Cornell Univ. *TT 4: SP 4.* June 1906 to March 1907 Transitman, Oregon Short Line R. R., part of time on power-plant investigations and design on Snake River, Idaho. *TT 0.8: SP 0.8.* March to Oct. 1907 Chf. Engr., Eureka Hill R. R., Silver City, Utah, located and constructed road (9 miles). *TT 0.6: P 0.6: RC 0.6: D 0.5.* Oct. 1907 to June 1909 Asst. Prof. of Eng., in charge of Dept. of Eng., Brigham Young Coll., Logan, Utah. *TT 1.5: P 1.5: RC 1.5: D 0.5.* June 1909 to July 1910 Asst. Engr., Sumpter Valley R. R., Baker, Ore., on location and construction of Prairie City extension. *TT 1: P 1: RC 1: D 0.5.* July 1910 to Sept. 1913 member of firm, West Bros., Cons. Engrs., Portland, Ore., handled work for Oregon Lumber Co. and Sumpter Valley R. R. Co. and Mt. Hood R. R. Co., at Baker and Dee, Ore., etc., made appraisals of these railroads for Utilities Comm., constructed Dee Irrigation & Power Co.'s Canal, etc. *TT 3.2: P 3.2: RC 3.2: D 1.* Sept. 1913 to date Prof., Agri. Eng., Utah Agricultural Coll., in charge of irrigation and highway work, 1916 to 1927 Dean of Schools of Agricultural Eng. and Mechanic Arts, and since 1927 Dean of Eng.; has charge of state power plant and has designed separate water and sewer system for the college and, as Designer and Constr. Engr., has completed new stadium. *TT 14.4: P 14.4: RC 14.4: D 3. TT 25.5: SP 4.8: P 20.7: RC 20.7: D 5.5.* Refers to S. Q. Cannon, E. B. Feldman, O. W. Israelsen, E. A. Jacob, C. P. Kahler, R. R. Lyman, E. Schaub, G. L. Swendsen, L. M. Winsor, J. H. Young.

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(8) **WHITE, DUANE KIDDER**, 2316 Sherman Ave., Evanston, Ill. (Age 33. Born Enon, Kans.) 1923 B. S. C. E., and 1927 C. E., Purdue Univ. *TT 4: SP 4.* May 1917 to Feb. 1919 Planner and Estimator, U. S. Navy, Hull Div., Bureau of Constr. and Repairs, Philadelphia (Pa.) Navy Yard. *TT 1.6: SP 0.5: P 1.1: RC 1.1.* Feb. 1923 to May 1924 Estimator, American System of Reinforcing, Chicago, Ill. *TT 1.2: SP 0.5: P 0.7: RC 0.7: D 0.7.* May 1924 to June 1925 with Gen. Fireproofing Co., until Dec. 1924 as Engr. at Chicago, then Branch Sales Mgr. at Milwaukee, Wis. *TT 1: SP 0.5: P 0.5: RC 1: D 0.5.* June 1925 to July 1926 Sales Engr., Concrete Steel Co., Chicago. *TT 1.2: P 1.2: RC 0.7: D 0.5.* July 1926 to March 1927 Sales Supervisor, Steel Constr. Dept., Jones & Laughlin Steel Corporation, Pittsburgh, Pa. *TT 0.7: P 0.7: RC 0.7: D 0.7.* March 1927 to date Structural Designer with Holabird & Roche, Architects., Chicago. *TT 0.9: P 0.9: RC 0.9: D 0.9. TT 10.6: SP 5.5: P 5.1: RC 5.1: D 3.3.* Refers to J. B. Black, F. E. Brown, H. J. Burt, G. M. A. Ilg, W. A. Knapp, A. E. Lindau, A. Smith.

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(7) **WILCOXEN, LEWIS CLARK**, City Engr.'s office, Detroit, Mich. (Age 35. Born Holyoke, Mass.) 1916 B. C. E., Univ. of Mich. *TT 4: SP 4.* Oct. 1916 to Dec. 1917 Asst. Civ. Engr., Centrale Ramona, Dominican Republic, being Chf. of Party on surveying; railroad location and office work. *TT 1.2: SP 1.2.* Dec. 1917 to June 1918 Private, 23d Engrs., U. S. Army, on road building in France. *TT 1.5: SP 1.5.* July 1919 to May 1920 Asst. Sewer Designer, City Engr.'s office, Detroit, Mich., on study and design of Connors Creek Sewer. *TT 0.8: P 0.8: D 0.8.* May to Nov. 1920 Structural Draftsman, Ford Motor Co., Detroit, on design and drawing of reinforced concrete. *TT 0.6: P 0.6: D 0.6.* Jan. 1921 to Sept. 1923 Experimental Engr. for Thos. A. Edison, West Orange, N. J. (1 year) and Factory Executive. *TT 1: SP 1.* Oct. 1923 to July 1926 with Ford Motor Co., 1 year as Draftsman, remainder of time not on engineering work. *TT 1: SP 1.* July 1926 to date Asst. Civ. Engr., City Engr.'s office, Detroit. *TT 1.5: P 1.5: RC 1: D 1.5. TT 11.6: SP 8.7: P 2.9: RC 1: D 2.9.* Refers to P. A. Fellows, S. R. Ginsburg, W. L. Stanton, I. O. Thorley, M. F. Wagnitz, F. E. Weber.

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(12) WILLIAMS, CECIL CALVERT, Box 491, Wenatchee, Wash. (Age 41. Born Spokane, Wash.) Sept. 1906 to June 1907 Student in Civ. Eng., Washington State Coll. TT 0.5: SP 0.5. June 1905 to Sept. 1906 Chainman, Rodman, and Timekeeper, Spokane (Wash.) International Ry. TT 1.3: SP 1.3. July to Dec. 1907 Field Draftsman, transmission-line location, Washington Water Power Co., Spokane. TT 0.5: SP 0.5. Dec. 1907 to Feb. 1909 Chainman, Rodman, instrument work, timekeeping, etc., Washington Water Power Co., J. W. Strock and Otto Welle. TT 1.3: SP 1.3. Feb. to June 1909 Rodman, Great Northern Ry. TT 0.3: SP 0.3. June to Nov. 1909 developing irrigated ranch on Owyhee River, Malheur County, Ore. Nov. 1909 to Jan. 1910 Transmittan, on hydro-electric preliminary surveys on Snake River, Idaho, for B. G. Jaynon, New York City. TT 0.2: SP 0.2. Jan. to Aug. 1910 Asst. Engr. in charge of field party, irrigation canal location, and Aug. 1910 to Dec. 1913 Engr. on construction in charge of surveys, estimates, etc., with Icicle Canal Co., Wenatchee, Wash.; latter period also Engr. in charge of surveys, tunnel and canal location, construction for Wenatchee Canal Co. TT 4: P 4. Jan. 1914 to Jan. 1915 in private practice of irrigation engineering, Wenatchee. TT 1: P 1. Feb. to Sept. 1915 with Wenatchee Canal Co., supervising preliminary work in organization of irrigation district, and (after July 1915) Acting Supt. in charge of operation. TT 0.8: P 0.8: RC 0.4: D 0.4. Oct. 1915 to Sept. 1918 Engr., Wenatchee Reclamation, in charge of design, location, and construction of canals, flumes, pipe lines, concrete-tunnel lining, Wenatchee; 1918-1924 acted as Watermaster and Deputy State Hydr. Engr. in charge of administration of State water code in Chelan County, Wash. TT 3: P 3: RC 3: D 3. Sept. to Dec. 1918 Private (Student Officer Candidate), Co. 6, Engr. Officers' Training Corps, Camp A. A. Humphries, Va. TT 0.3: SP 0.3. Dec. 1918 to Dec. 1921 in private practice, irrigation design and construction, organization of irrigation districts, etc.; Cons. Engr., Wenatchee Reclamation Dist. TT 3: P 3: RC 3: D 3. Dec. 1921 to date with Wenatchee Reclamation Dist., until April 1925 as Engr. in charge of reconstruction, surveys, construction of canals, tunnel pipes, flumes, etc., and since then managing Secy. and Engr. TT 6.1: P 6.1: RC 6.1: D 6.1. TT 22.3: SP 4.4: P 17.9: RC 12.5: D 12.5. Refers to W. L. Bowen, C. E. Chase, M. Chase, T. H. Judd, M. R. Lewis, E. Logan, I. Worthington, R. Zahren.

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(15) WILSON, WILLIAM MUNSEY, P. O. Box 15, Austin, Tex. (Age 33. Born Hallettsville, Tex.) 1923 B. S. in Arch. Eng., Univ. of Tex. TT 4: SP 4. Sept. 1923 to June 1924 research work at Univ. of Texas, studied concrete design, civil engineering and economics: Tutor, senior course in concrete design. June to Aug. 1923 designed structure for Eagle Lake High School, and June 1924 to date Designing Engr. and Bldg. Inspector, all for Glesecke & Harris, Archts. TT 4.7: P 4.7: RC 0.5: D 4.2. TT 8.7: SP 4: P 4.7: RC 0.5: D 4.2. Refers to E. C. H. Bantel, P. M. Geren, F. E. Glesecke, A. T. Granger, J. L. O'Hearn, W. E. Simpson, T. U. Taylor.

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(4) WOLFE, JAMES HENRY, Jr., 1700 Walnut St., Philadelphia, Pa. (Age 30. Born Philadelphia, Pa.) 1919 B. S. in C. E., Univ. of Pa. TT 4: SP 4. June to Oct. 1919 Transmittan, Emergency Fleet Corporation, on surveys, layout of streets, etc., for village of Brooklawn, N. J. TT 0.3: SP 0.3. Jan. to Aug. 1920 Draftsman and Surveyor, with Day & Zimmermann, on building contracts. TT 0.7: SP 0.7. Aug. 1920 to Oct. 1921 Surveyor and Map Draftsman, Atlas Powder Co., Wilmington, Del., on surveys, narrow-gauge railroad computations, mapping of plant layout, including pipe lines, etc. TT 1.1: SP 0.3: P 0.3: RC 0.3. Oct. 1921 to March 1924 Structural and Field Engr., F. L. Hoover & Sons, Inc., Bldg. Contrs., Philadelphia, Pa., checking subcontractor's drawings, design and layout of work, expediting and estimating. TT 2.4: SP 0.7: P 1.7: RC 1.3. March to Dec. 1924 with Irwin & Leighton, Bldg. Contrs., as Drafting Room Checker, subcontract work, layout, detailing, etc. TT 0.7: P 0.7: RC 0.7. Feb. to Sept. 1925 with Stone & Webster, as Checker of reinforced concrete details for power-plant construction. TT 0.5: SP 0.5: RC 0.5. March 1926 to date with Turner Constr. Co., Bldg. Contrs., Philadelphia, checking subcontract work, design and supervision of reinforced concrete and details, estimates, etc. TT 1.9: SP 1.2: P 0.7: RC 1.5. TT 11.6: SP 8.9: P 2.7: RC 4.3. Refers to E. R. Bear, C. R. Berry, H. C. Berry, N. H. Cooke, L. S. Homer, E. L. Ingram, C. L. Warwick.

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(4) ZARTARIAN, LEVON, 5020 Locust St., Philadelphia, Pa. (Age 26. Born Philadelphia, Pa.) Student in Structural Eng., Drexel Inst. Evening School (June 1928 class). Sept. 1918 to March 1925 Tracer and Detailer, March 1925 to Nov. 1926 Special Engr. on tests in combustion engineering, Nov. 1926 to Sept. 1927 Detailer, and Sept. 1927 to date Special Engr. on tests in power engineering, all for Atlantic Refining Co. TT 9.3: SP 9.3. Refers to J. E. Boatrite, R. W. Hoch, B. A. Owen, W. Samans, C. P. Schantz.

FOR TRANSFER

FROM THE GRADE OF ASSOCIATE MEMBER

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(1) BATHAM, WILLIAM STANLEY, Assoc. M., Eng. Dept., Tanganyika Rys., Dar-Es-Salaam, East Africa. (Elected June 16, 1924.) (Age 39. Born Beckenham, Kent, England.) 1907 Associate, City and Guilds Inst., Central Tech. Inst., London Univ. March 1910 to Aug. 1914 Engr., Great Western of Brazil Ry. Co., Ltd., 1½ years as Leveler and Asst. Locating Engr., 1½ years Asst. Engr. and 1 year Acting Res. Engr. on construction. *TT 4.3: SP 1: P 3.3: RC 1.* Sept. 1914 to March 1919 with Royal Engrs., British Army, 2 years with Signal Service as Lieut., and 2½ years with Ry. Troops as Lieut. and Capt., last 1½ years being Liaison Officer with Portuguese Ry. Troops. *TT 4.5: P 4.5: RC 4.5.* March 1919 to Dec. 1922 Engr., G. W. of B. Ry. Co., Ltd., about 3 years as Maintenance Engr., then Chf. Res. Engr. on Southern Sections. *TT 3.7: P 3.7: RC 2.2: D 1.5.* Dec. 1922 to April 1924 with C. H. Walker & Co., Contrs., Westminster, London, England, as Engr. of Constr. of Parelhas Dam, Rio Grande do Norte, Brazil. *TT 1.4: P 1.4: RC 0.9: D 0.5.* July 1924 to Oct. 1926 with a syndicate for railway construction in Peru, representing Douglas Fox & Co., Cons. Engrs., and Tech. Advisor; made two visits to Peru, inspecting and estimating. *TT 2.2: P 2.2: RC 2.2.* Oct. 1926 to date Engr., Tanganyika Rys., Tanganyika Territory, being Engr.-in-Chg. on Kahama-Mwansa (Lake Victoria) construction (230 km.). *TT 1.2: P 1.2: RC 0.9: D 0.3.* *TT 17.3: SP 1: P 16.3: RC 11.7: D 2.3.* Refers to A. Culver, R. Freeman, D. G. Heslop, G. B. G. Hull, F. W. Scott.

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(7) BLOMSHIELD, HJALMAR LUTHER, Assoc. M., 2716 Van Alstyne Blvd., Wyandotte, Mich. (Elected April 7, 1915.) (Age 41. Born Bay City, Mich.) June 1904 completed Eng. course, Bay City Eastern High School. Summers 1902-1903 Chainman, and July 1904 to May 1905 Chainman, Rodman and Instrumentman for J. H. Blomsheld, C. E., Bay City, Mich. July 1903 Chainman, Michigan Central R. R. Co. *TT 0.9: SP 0.9.* May 1905 to May 1906 with Murray Constr. Co., until Dec. 1905 as Timekeeper, Paymaster, Asst. Foreman and Instrumentman on water-works and submarine work at Alpena, Mich., then Draftsman and Officeman at Saginaw on concrete and submarine contracts. *TT 1: SP 1.* June to Dec. 1906 Mechanical Draftsman, Industrial Works, Bay City. Jan. to May 1907 Draftsman, Modern Concrete Bridge Co., Bay City. *TT 0.4: SP 0.4.* June 1907 Structural Draftsman, Whitehead & Kales Iron Works, Detroit. *TT 0.1: SP 0.1.* June 1907 to date with Pennsylvania Salt Mfg. Co., at Wyandotte, Mich., until April 1910 as Chf. Draftsman and Asst. Engr. in charge of Drafting Dept. on building extensions and equipment installations (\$500 000), and since then Chf. Constr. and Maintenance Engr. in direct charge of designing buildings and equipment and supervising construction and installation, including water mains, large concrete sewers and river intakes, pumping equipment, boilers (500 and 800 h. p.) with stokers pulverized-fuel, coal- and ash-handling equipment, steam turbines, current generators, etc., building construction for chemical process work, reinforced concrete tanks, special apparatus and equipment installations: in charge of forge, various departments (and during war) in charge of extensions and additions for manufacture of chlorine, caustic and base for mustard gas; since April 1914 also Engr., and (March 1919 to March 1920) Pres., Village of Trenton, Mich.; during past 5 years water extensions, sewer and pavement construction, etc. (approx. \$500 000) have been completed. *TT 20.7: P 20.7: RC 20.7: D 20.7.* *TT 23.7: SP 3: P 20.7: RC 20.7: D 20.7.* Refers to A. J. Decker, D. M. Hatch, W. C. Hoad, C. W. Hubbell, E. C. Shoecraft, G. S. Williams.

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(1) CHAPMAN, RONALD FARQUHAR, Assoc. M., The Warren, Reigate Road, Dorking, England. (Elected March 11, 1919.) (Age 41. Born Surbiton, Surrey, England.) 1906 to 1907 Asst. Surveyor, London County Council, Works Dept., on tramways, sewers and building works. *TT 1.5: P 1.5.* 1908 to 1909 Asst. Engr., with Bennett Son & Berry, Civ. Engrs., Southampton, on plans and quantities for sewers and sewage-disposal works, Emsworth, England. *TT 2: P 2: D 2.* 1910 to 1914 Engr., Antofagasta, Chile & Bolivia Ry. Co., Ltd., on water-supply design and construction; constructed high-pressure pipe line and reinforced concrete reservoir (capacity 10 000 tons). *TT 4: P 4: RC 3: D 2.5.* 1914 to 1919 with Royal Engrs., British Army, in France; Dec. 1914 commissioned, demobilized as Capt.; commanded 1501 and 51 A. W. Co., Royal Engrs. *TT 5: P 5: RC 5.* 1920 to date Constr. Engr. and Director, W. H. Brown (Leatherhead), Ltd., Public Works Constrs., on sewers, roads, bridges, underground cable work and buildings. *TT 7: P 7: RC 7.* *TT 19.5: P 19.5: RC 15: D 4.5.* (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

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(11) DICKINSON, WILLIAM EUGENE, Assoc. M., Box. 162, University Station, Tucson, Ariz. (Elected Dec. 15, 1924.) (Age 38. Born Geneseo, N. Y.) 1914 C. E. Cornell Univ. TT 4: SP 4. Summer 1912 Chairman, New York State Eng. Dept., being Inspector on Barge Canal dredging. Summer 1913 Rodman, New York State Highway Dept., being Office and Field Asst. July to Dec. 1914 and Dec. 1915 to April 1916 Jun. Civ. Engr., Interstate Commerce Comm., Div. of Valuation, detailed inventories of roadway and track, Boston & Maine R. R. and Arizona Eastern R. R. TT 0.7: SP 0.7. Dec. 1914 to Aug. 1915 Jun. Engr., U. S. Reclamation Service, New Mexico and Texas, being Draftsman, Instrumentman, and Chf. of field party on ground-water investigation. TT 0.7: SP 0.3: P 0.4. Aug. to Nov. 1915 Field Asst., California Highway Comm., being Inspector on construction, grading and concrete paving. TT 0.3: SP 0.3. April 1916 to Dec. 1917 Jun. Engr., U. S. Geological Survey, stream measurement, field and office, in Utah, Oregon and Arizona; Asst. on Water-power studies in Oregon. TT 1.7: P 1.7: RC 0.7. Dec. 1917 to April 1918 2d Lieut., E. R. C., U. S. Army, Student at Engr. Reserve Officers Training Camp. TT 0.3: SP 0.3. April 1918 to date with U. S. Geological Survey, as Jun., Asst., or Hydr. Engr., Water Resources Branch, Dist. of Columbia, Washington, Utah, Nevada and Arizona; since Nov. 1923 Dist. Engr., Arizona Dist. TT 9.8: P 9.8: RC 9.8: D 3. TT 17.5: SP 5.6: P 11.9: RC 10.5: D 3. Refers to E. S. Borgquist, N. C. Grover, J. C. Hoyt, F. C. Kelton, E. C. LaRue, L. Lee, A. B. Purton, H. S. Reed, G. E. P. Smith.

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(1) FORBES, THOMAS AUSTIN, Assoc. M., Apartado No. 400, Barranquilla, Colombia. (Elected Junior Oct. 11, 1920; Assoc. M., May 28, 1923.) (Age 33. Born Apollo, Pa.) 1920 C. E., Lafayette Coll., Easton, Pa. TT 4: SP 4. Summer 1913 Chairman with Albert Smith, C. E. and M. E., Saltsburg, Pa. Summer 1914 Rodman, Cochran Coal Co., Salina, Pa. Summer 1915 Acting Foreman, resurfacing water-bound macadam and Summer 1917 Oiling Inspector, Pennsylvania State Highway Dept. Summer 1916 on electric locomotive assembly, Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa. April 1918 to July 1919 with U. S. Army, 49th Co. 20th Engrs., A. E. F., on road, bridge and mill construction. TT 1.3: SP 1.3. June 1920 to Jan. 1922 Civ. Engr., Pennsylvania State Highway Dept., acting as Transitman, Inspector and Chf. Inspector on construction of reinforced concrete roads and pavements, design, plans and estimates. TT 1.6: P 1.6: RC 1: D 0.6. Feb. to June 1922 Transportation Engr., Citizens Motor Car Co., Cincinnati, Ohio, transportation studies and reports. TT 0.4: P 0.4. July to Sept. 1922 Statistician, Port of New York Authority, study of freight traffic. TT 0.2: P 0.2. Sept. 1922 to April 1923 Asst. Engr. with Black, McKenney & Stewart, Engrs., Washington, D. C., being Asst. to Location Engr. on 22 miles of railroad for Jellico Creek Co., Winfield, Tenn., location, plans and estimates, Res. Engr. on construction. TT 0.6: P 0.6: RC 0.6. May to Aug. 1923 Valuation Engr., Brooklyn (N. Y.) Union Gas Co. TT 0.2: P 0.2. 1923 to 1925 Jun. Engr., War Dept., U. S. Army, on construction of hydro-electric and navigation project (\$51 000 000) at Muscle Shoals, Ala., design of construction plant and methods; Asst. to Chf. of Eng. Sec., Constr. Div. No. 1, in charge of surveys and construction layouts on main dam and navigation locks; Engr. in charge of layout of 4-story reinforced concrete oil-circuit breaker building; in charge of preliminary surveys and final location of permanent highways. TT 2.4: P 2.4: RC 1.8: D 0.6. 1926 to date Field Engr. with Black, McKenney & Stewart, Washington, D. C., on regulation and control of Magdalena River Colombia, South America, hydrographic surveys, triangulation, construction of jetties at river mouth. TT 2: P 2: RC 2. TT 12.7: SP 5.3: P 7.4: RC 5.4: D 1.2. Refers to W. M. Black, L. M. Gray, C. A. McKenney, L. Perry, J. Stewart.

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(1) FOX, WILLIAM FREDERICK, Assoc. M., 32 Walnut Ave., Rockville Centre, N. Y. (Elected Junior April 5, 1910; Assoc. M. April 18, 1916.) (Age 41. Born New York City.) Student (evenings), Pratt Inst. (1905-1907) and Polytechnic Inst., Brooklyn (1907-1909), and Columbia Univ., New York City (1911-1912). 1903 to 1907 with Astoria (N. Y.) Light, Heat & Power Co., as Inspector of construction, laying out and supervising construction of parts of gas plant, including foundations, buildings and mechanical equipment. TT 4: SP 4. 1907 to date Asst. Engr., Interborough Rapid Transit Co., being Asst. to Road Engr. on maintenance of subway and elevated structures and on construction work of Operating Dept., including shoring and reconstruction of elevated column foundations; repairs, shoring, maintenance, underpinning and reconstruction of subway and elevated structures, including Contr. No. 3 of subway construction and present construction by City of New York. TT 21: SP 6: P 15: RC 10: D 10. TT 25: SP 10: P 15: RC 10: D 10. Refers to C. E. Carpenter, F. L. Cranford, B. Klipp, J. C. Meem, G. Paaswell, G. H. Pegram, R. A. Shaller, D. C. Waite.

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(6) FULKMAN, JOHN ALEXANDER, Assoc. M., 1225 Richmond St., Pittsburgh, Pa. (Elected Nov. 21, 1921.) (Age 38. Born Pulaski, Pa.) 1913 B. S. in San. Eng., Pa. State Coll. TT 4: SP 4. June to Oct. 1912 Rodman, Constr. Corps, Baltimore & Ohio R. R., Cumberland, Md., layout and inspection of building construction. Sept. 1911 to June 1913 (while student) Transitman, Borough of State College, Pa., layout of streets, sewers, water lines and surveying. June 1913 to Jan. 1915 Asst. Engr., Pennsylvania Water & Power Co., Baltimore, Md., design and inspection of concrete and building construction, and preparing construction schedules. TT 1.6: P 1.6. Jan. 1915 to date (except Aug. 1918 to June 1919 Lieut., U. S. Army, Camp San. Engr., Edgewood, Md., Arsenal, in charge of water supply, sewage disposal, garbage collection and disposal, drainage and mosquito eradication) with Morris Knowles, Inc., until Aug. 1918 as Asst. Engr. on design of water-works, sewer and drainage systems, then Senior Asst. Engr. on design and supervision of construction of water-works, from Nov. 1921 to Nov. 1923 supervising construction of Elyria (Ohio) filtration plant and pumping station (about \$1 500 000); since Nov. 1923 Chf. Draftsman and Div. Engr. on design of water-works and sewage-disposal plants; prepared drawings and specification, being responsible for about 30 projects and (in a few cases) had general supervision of construction from office, with occasional visits to work. TT 13.2: P 13.2: RC 11.5: D 7.9. TT 18.8: SP 4: P 11.5: RC 11.5: D 7.9. Refers to N. B. Jacobs, M. Knowles, C. E. Long, C. M. Reppert, M. R. Scharff.

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(13) GIVAN, ALBERT, Assoc. M., 2175 Thirty-Fifth St., Sacramento, Cal. (Elected Nov. 12, 1913.) (Age 51. Born Terre Haute, Ind.) 1 year student in Mech. Eng., Rose Polytechnic Inst., Terre Haute, Ind. TT 0.5: SP 0.5. Oct. 1896 to June 1903 with Motive Power Dept., Southern Pacific Co., as Apprentice, Journeyman, Machinist, Draftsman and Car and Locomotive Designer. TT 6.7: SP 5.5: P 1.2: D 1. June 1903 to Jan. 1906 Mech. Engr. and Asst. City Engr. of Sacramento in charge of manufacture of wrought-steel water mains and of erection of 10 000 000 gal. pumping unit, also made tests of plant. TT 2.5: P 2.5: RC 2: D 2. Jan. 1906 to Jan. 1907 Office Engr. and Asst. Engr., Western Pacific Ry. Co., on construction, prepared designs for undergrade crossing, general yards and terminal and water front wharves. TT 1: P 1: RC 1: D 1. Jan. 1907 to Jan. 1910 Chf. Deputy City Engr., Sacramento; under direction designed and had responsible charge of construction of system of sewers and sewage-pumping station (estimated cost \$150 000), also installed and tested machinery for sewage-pumping plant; Acting City Engr. in absence of City Engr.; also 1907 Cons. Engr. to County Surveyor, Sacramento County, on bridges, designs made for four bridges (\$9 000 to \$70 000), 1908 made designs for contracting firms for Simmerly Slough Bridge (100-ft. steel span) and Auburn Ravine Bridge (reinforced concrete, nine 40-ft. spans, not constructed). TT 3: P 3: RC 3: D 1.5. Jan. to Aug. 1910 Mgr., California Bldg. Material Co., Niles, Cal. TT 0.6: P 0.6: RC 0.6. Aug. 1910 to Sept. 1911 with J. C. Boyd, Civ. Engr., Sacramento, Cal., on subdivision of Rancho Del Paso (45 000 acres) and general engineering work, including detailed study of flood conditions and probable maximum runoff at confluence of Mokelumne and Cosumnes Rivers. TT 1.1: P 1.1: RC 1.1: D 0.5. Sept. 1911 to Feb. 1912 general engineering practice, including land subdivision, irrigation and pumping works designs. TT 0.4: P 0.4: RC 0.4. Feb. 1912 to Aug. 1914 with City of Sacramento, until Sept. 1912 as Special Asst. Chf. Engr., designing sewage system, establishing street grades, combined system of sewers and sewage-purification work, etc.; then City Engr., plans and designs completed for sewerage (\$1 033 000) and water-distribution (\$1 315 000) systems, including pumping station, reconstruction of levees and construction of overflow weir and by-pass into Yolo Basin from Sacramento River for flood protection (\$887 000), Hall of Justice Bldg. (\$208 000) and electrical distributing system for arc lights and substation (\$110 000), etc. TT 2.5: P 2.5: RC 2.5: D 2.5. Aug. 1914 to April 1920 in private practice as Cons. Engr. on construction of streets, sewerage and water-distributing systems, disposal works, etc., design and construction of levees, pumping plants and drainage systems diversion and distributing works for reclamation and irrigation districts; appraisals and estimates for rate cases, supervised designs of reinforced concrete and steel structures, including 217-ft. reinforced concrete arch highway bridge; reports and estimates of available water supply and hydro-development on Yuba, American, Cosumnes and Mokelumne Rivers; in 1917 connected with Liberty Iron Works on construction of Airplanes. TT 5.7: P 5.7: RC 5.7: D 5.7. April to Nov. 1920 Asst. State Engr. TT 0.6: P 0.6: RC 0.6: D 0.6. Nov. 1920 to July 1921 Chf. Engr., Excelsior Water & Power Co., completed reports on power development and irrigation from South Yuba. TT 0.7: P 0.7: RC 0.7: D 0.7. July 1921 to Aug. 1924 City Engr. of Sacramento, during this period street work (\$2 500 000), a filtration

plant (\$2 800 000), extension to water distributing system (\$200 000), wharves (\$200 000), garbage incinerator (\$216 000), subways (\$150 000), etc., were completed. *TT 3.1: P 3.1: RC 3.1: D 3.1.* Aug. 1924 to date Gen. Mgr. and Chf. Engr. of Sacramento Municipal Utility Dist.; plans and estimates have been completed for proposed mountain water supply (200 000 000 gal. daily) and of electric development (90 000 h. p.) from Silver Creek Drainage Basin, El Dorado County, Cal. *TT 3.4: P 3.4: RC 3.4: D 3.4.* *TT 31.7: SP 6: P 25.7: RC 24: D 21.9.* Refers to P. Bailey, J. C. Boyd, E. N. Bryan, D. Butler, J. W. Gross, C. E. Grunsky, E. Hyatt, Jr., C. H. Kromer, R. E. McDonnell, D. W. Mead, E. Oliver, G. N. Randle, F. C. Scobey, A. J. Wagner.

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(15) **JOHNSTON, GUY ROBERT**, Assoc. M., Graham, Tex. (Elected July 11, 1921.). (Age 42. Born Marianna, Ark.) July 1902 to Jan. 1903 Axeman to Rodman, St. Louis, Iron Mountain & Southern R. R. *TT 0.5: SP 0.5.* Jan. 1903 to Sept. 1905 Rodman and Instrumentman for his father on drainage and land-boundary work. *TT 2.7: SP 2.7.* Sept. 1905 to Oct. 1906 Asst. City Engr., Helena, Ark., sewer and pavement design and construction. *TT 1.1: SP 1.1.* Nov. 1906 to April 1907 Supt. of Constr., Nick Peay Constr. Co., Little Rock, Ark., constructing sewer system in Marianna, Ark. *TT 0.5: SP 0.2: P 0.3: RC 0.3.* April 1907 to Nov. 1911 City Engr. and Plumbing Inspector, Marianna, also private practice in drainage survey and design, subdivision, etc. *TT 4.6: P 4.6: RC 4.6: D 2.3.* Dec. 1911 to April 1912 Foreman, Midland Bridge Co., constructing steel highway bridge over Brazos River, West Columbia, Tex. *TT 0.3: SP 0.3.* April to Aug. 1912 Asst. to County Surveyor, Harris County, Tex., on roads, drainage and subdivision. *TT 0.3: P 0.3: RC 0.3: D 0.1.* Jan. to April 1913 Chf. of Party, State Highway Dept., Arizona, bridge location. *TT 0.2: P 0.2: RC 0.2.* Aug. to Dec. 1913 Instrumentman, Southern Pacific R. R. Co. *TT 0.3: SP 0.3.* March to Aug. 1914 Grade Foreman for Marshall & Foss, in charge of highways, Santa Cruz Mts., Cal. *TT 0.4: SP 0.4.* Jan. 1915 to April 1919 with U. S. Army Engrs., 3 years as Inspector and Chf. of Party on concrete fortification construction and topographic surveys of Philippine Islands, and 1½ years at Washington Barracks, D. C., training recruits; Instructor of surveying and drafting, U. S. Army Trade School. *TT 4.2: SP 2: P 2.2: RC 2.2: D 0.1.* June to Dec. 1919 in private practice at Desdemona, Tex., subdivision work. *TT 0.5: P 0.5: RC 0.5.* Jan. to Sept. 1920 Chf. of Party and Sept. 1920 to Nov. 1922 Prin. Asst., Tarrant County (Tex.) Highway Dept., on location and design. *TT 2.8: P 2.8: RC 2.8: D 1.5.* Nov. 1922 to April 1923 Supt. of Constr. with J. F. Hamer, Gen. Contr., Amarillo, Tex., on state highway construction. *TT 0.5: P 0.5: RC 0.5.* April 1923 to Jan. 1924 Engr. in Chg., State Highway Dept., Hill County, Tex., on design and construction. *TT 0.7: P 0.7: RC 0.7: D 0.3.* Jan. 1924 to Sept. 1927 County Engr., Jack County, also Dec. 1925 to July 1927 County Engr., Young County, and July 1927 to date Res. Engr., Young and Archer Counties, Tex., State Highway Dept., on highway location, design and construction. *TT 4.2: P 4.2: RC 4.2: D 2.1.* *TT 23.7: SP 6.2: P 17.5: RC 17.5: D 7.* Refers to J. D. Fauntleroy, G. Gilchrist, J. B. Hawley, J. E. Pirie, A. D. Stivers, R. A. Thompson, G. G. Wickline, R. J. Windrow.

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(8) **KNOX, ROBERT MAURICE**, Assoc. M., 141 Euclid Ave., Glencoe, Ill. (Elected Nov. 25, 1919.). (Age 46. Born Lisburn, Ireland.) 1899 to 1904 Clerk and Foreman, Kootenay Ry. and Navigation Co., Kaslo, B. C., Canada. *TT 5: SP 5.* 1904 to 1905 Paymaster and Asst. Foreman, V. W. & Y. Ry. Co., Vancouver, B. C., Canada. *TT 1: SP 1.* Dec. 1905 to date (except Aug. 1918 to Jan. 1919 Capt., Engrs., U. S. Army, in command of Co. C, 75th Engrs. and later Co. C 70th Engrs.) with A. Guthrie & Co., Inc., Gen. Contra., engaged as follows: Dec. 1905 to Aug. 1906 Paymaster, Asst. Foreman and Foreman on railroad construction; Aug. to Dec. 1906 Asst. Supt., on railway tracklaying and surfacing in Manitoba; Dec. 1906 to May 1907 purchasing timber on Pacific Coast; May to Dec. 1907 Asst. Supt. of Constr. and Dec. 1907 to Dec. 1909 Supt. of Constr. on Billings and Northern Ry. (195 miles), grading, bridges, tunnelling, tracklaying and ballasting; Dec. 1909 to Feb. 1911 Supt. of Constr. on bridging and tracklaying, Nashwauk-Gunn Junction, G. N. Ry.; Feb. 1911 to Nov. 1913 Supt. on bridge and culvert construction, grading, reinforced concrete subways, tracklaying, ballasting, etc. on G. N. Ry., C. & Q. Ry., etc. in United States and Canada; since Nov. 1913 Gen. Supt., on railway grading, bridging, tunnelling, tracklaying and ballasting (160 miles) in Dakota and Montana (1 year), stripping iron properties, Northern Minnesota (1 year), on construction, Calumet Sag Channel for San. Dist. of Chicago (6½ years), Dawson Springs-Central City Line, I. C. Ry. (35 miles) (2 years), and (since Dec. 1924) I. C. Ry. (20 miles), including grading, bridging and 2 miles of tunnels. *TT 22.2: SP 1.1: P 21.1: RC 20.1: D 5.* *TT 28.2: SP 7.1: P 21.1: RC 20.1: D 5.* Refers to J. C. Baxter, E. H. Bruntlett, R. Budd, A. H. Hogeland, E. E. Howard.

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(10) McDONALD, FREDERICK HONOUR, Assoc. M., Southeastern Trust Co. Bldg., Atlanta, Ga. (Elected July 11, 1921.) (Age 35. Born Charleston, S. C.) 1914 B. S. in Elec. and Mech. Eng., Clemson Coll. TT 4: SP 4. June 1909 to Sept. 1910 Rodman and Levelman, and summers 1911-1913 Instrumentman, Atlantic Coast Line R. R. June 1914 to May 1915 Engr. Student Apprentice, and June 1915 to Aug. 1916 Asst. to Chf. of Production, Production Dept., Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa. TT 2.2: SP 1: P 1.2: RC 1.3: D 0.6. Sept. 1916 to Aug. 1917 Field Engr. in natural gas, Hope Eng. & Supply Co., Tulsa, Okla. TT 1: P 1: RC 1: D 1. Sept. 1917 to Feb. 1921 Lieut., Corps of Engrs., U. S. Army, overseas until Sept. 1918, then in hospital, last year outside patient. TT 2.2: P 2.2: RC 1: D 1. April 1920 to Aug. 1923 with Lockwood, Greene & Co., Engrs., Atlanta, on plant layout, appraisals and cost estimates. TT 1.3: P 1.3: RC 1.3: D 1.3. Aug. 1923 to July 1924 Chf. Engr. and Managing Director, Georgia Industrial Bureau. TT 1: P 1: RC 1: D 1. July 1924 to date Pres., McDonald & Co., Engrs. and Archts.; work has consisted of office building and hotel design, commercial buildings, considerable work in Florida on subdivision and city planning, industrial buildings and at present on hydro-electric development. TT 3.5: P 3.5: RC 3.5: D 3.5. TT 15.2: SP 5: P 10.2: RC 9.6: D 8.4. Refers to G. M. Braune, B. M. Hall, B. H. Hardaway, J. H. Johnston, S. B. Slack, C. A. Smith, H. F. Wiedeman.

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(1) SANDSTROM, ARTHUR CHARLES, Assoc. M., Castilla 1557, Santiago, Chile. (Elected May 31, 1916.) (Age 39. Born Roswell, N. Mex.) 1914 A. B., and 1916 C. E., Leland Stanford, Jr., Univ. TT 4: SP 4. Oct. 1906 to Nov. 1907 Axeman, Rodman and Chainman, Southern Pacific Ry. Co. TT 1.1: SP 1.1. Nov. 1907 to May 1908 Chainman, Rodman, Draftsman and Instrumentman, surveys, highway location and construction, Mt. Hood Ry. Co., for County Surveyor and various firms in Portland, Ore. TT 0.5: SP 0.5. May to Sept. 1908 Rodman, Draftsman and Instrumentman, Nov. 1908 to Sept. 1909 Transitman in charge of field work, mountain location, and June to Aug. 1910 Asst. Res. Engr., heavy construction, United Rys. Co., Portland. TT 1.5: SP 0.6: P 0.9: RC 0.9. Sept. to Oct. 1909 Instrumentman and Draftsman, Ruth Trust Co., Portland. TT 0.1: P 0.1: RC 0.1. Sept. 1909 to June 1910 student, Oregon Agricultural Coll. Sept. 1910 to May 1914 student in Civ. Eng., and Field Instructor in surveying, Stanford Univ.; vacations Instrumentman, Draftsman and Estimator on surveys, estimates, etc., on railway location (1911), Asst. Engr. on 50 000-h. p. hydro-electric project, surveys, stream measurements, preliminary estimates and designs for Oregon Elec. Ry. and United Rys. Co., Portland (1912 and 1913). Sept. 1914 to Feb. 1916 Engr. in charge of grading and paving 14 miles of mountain highway, and locating about 25 miles of mountain and coast highway; also compiled report on expenditure of \$1 400 000 for highway development, San Mateo County, Cal. TT 1.5: P 1.5: RC 1.3: D 0.2. March to June 1916 on surveys for various firms, calibrating water current meters, inspecting sewer and water-pipe construction in Palo Alto, Cal. TT 0.3: P 0.3: RC 0.2: D 0.1. July 1916 to Aug. 1919 with Braden Copper Co., Rancagua, Chile, as Engr. in charge of hydro-electric surveys, stream gauging; Engr. on location and excavation of flow line, roads, inclines, construction of camps, telephone lines, etc., Fangual hydro-electric plant, about 3 months on studies of silting, reservoir and dam sites, etc.; about 1 year in charge of Materials Dept.; in charge of fabricating materials for 12-km. 80-in. wood-stave pipe, lumber and mastic lining for 6-mile tailing flume, operation and repairs of 7-mile hydro-electric canal, transport of 20 000 tons of material for Fangual Plant; completion of building program on Coya Hydro-electric plant, etc. TT 3.1: P 3.1: RC 2.5: D 0.6. Sept. 1919 to Jan. 1921 Hydr. Engr., Andes Copper Mining Co., in direct charge of preliminary and location surveys for La Ola pipe line (65 km. long), partial excavation of several long-hand driven tunnels; studies of possible hydro-electric plants; surveys for 90-km. railway and aerial tramway (elevation, 17 000 ft.). TT 1.3: P 1.3: RC 0.7: D 0.6. Jan. 1921 to June 1924 Constr. Engr., Compañia Nacional de Fuerza Electrica, Santiago, Chile, completing Maitenes main plant (15 000 kw.), directly in charge of rebuilding 8-km. aqueduct, building sedimentation works, spillways, forebay, penstocks, powerhouse, townsite, roads, later in complete charge of building Maitenes auxiliary pumping and generating plant, consisting of reservoir, canal, penstock and power plant; also in charge of surveys and studies for future hydro-electric plant. TT 3.5: P 3.5: RC 3: D 0.5. July 1924 to Jan. 1925 Engr., Whitehall Securities Corporation, Ltd., London, England, on designs and estimates for several proposed hydro-electric plants in Chile. TT 0.5: P 0.5: RC 0.2: D 0.3. Feb. 1925 to date Chf. Engr., Compañia Hidro-Eléctrica Volcan, Santiago, Chile, in full charge of location surveys, estimates, design of hydraulic structures and construction of Malpo No. 1 hydro-electric plant (36 000 kw., about \$5 500 000). TT 3: P 3: RC 1.5: D 1.5. TT 20.4: SP 6.2: P 14.2: RC 10.6: D 3.8. Refers to E. H. Baldwin, J. Tonkin Thomas. (Applies in accordance with Sec. 1, Art. 1, of the By-Laws.)

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(4) **SCHANTZ, CLARENCE PAUL**, Assoc. M., 620 Glen Echo Road, Mt. Airy, Philadelphia, Pa. (Elected Junior June 1, 1920; Assoc. M. March 12, 1923.) (Age 34. Born Dublin, Pa.) Registered Prof. Engr., State of Pennsylvania. 1912 Drexel Inst., Philadelphia, Pa. TT 4: SP 4. Oct. 1912 to date with Pennsylvania R. R. as follows: Oct. to Dec. 1912 Chairman; Dec. 1912 to April 1914 Draftsman in Chf. Engr.'s office, on projection of preliminary lines and preparation of location plans; April 1914 to March 1920 Draftsman; March 1920 to July 1926 Superv. Engr., and since July 1926 Designing Engr., Office of Engr. of Bridges and Bldgs., Philadelphia, detailing, design, and in charge of design of reinforced concrete and steel railroad and highway bridges, buildings, abutments, etc., preparation of specifications; also (spare time) consulting work on design, computations and estimates of buildings and structures for contractors and engineering firms; and since 1923 Instructor, Drexel Inst. Evening School. TT 15.3: SP 5.9: P 9.4: RC 9.4: D 12.3. TT 19.3: SP 9.9: P 9.4: RC 9.4: D 12.3. Refers to H. C. Booz, R. G. Develin, F. O. Dufour, R. Farnham, C. Gilman, H. R. Leonard, A. R. Wilson.

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(1) **SIMONDS, FRED WASHBURN**, Assoc. M., 4 Addison Pl., Ridgewood, N. J. (Elected Sept. 9, 1919.) (Age 45. Born Natick, Mass.) 1905 graduated, special course, Massachusetts Inst. of Technology. Nov. 1905 to July 1906 Rodman, July to Oct. 1906 Bridge Inspector. and Oct. 1906 to Nov. 1907 Draftsman and Transitman, Mohawk Div., New York Central R. R. TT 2.1: SP 2.1. Nov. 1907 to May 1911 Asst. Engr., Boston & Albany R. R., on design of grade-crossing eliminations, freight-terminal and passenger-classification yards and execution of some of this work. TT 3.5: P 3.5: RC 2.1: D 2.4. May 1911 to March 1918 in private practice of civil engineering, and Village Engr. for Ridgewood, N. J., and surrounding towns, surveying and in direct charge of design, construction and maintenance of streets, sewers, etc. TT 6.8: P 6.8: RC 6.8: D 6.8. March 1918 to July 1919 City Engr., Commr. of Streets and Supt. of Water Works, Rahway, N. J., direct control of works. TT 1.3: P 1.3: RC 1.3: D 0.3. July 1919 to Feb. 1920 City Mgr. of Elizabeth City, N. C., in direct charge of all departments. TT 0.7: P 0.7: RC 0.7. Feb. 1920 to March 1923 Prin. Asst. Engr. with Wm. M. Platt, Cons. Engr., Durham, N. C., in responsible charge of design and construction of water and sewer systems, water-filtration and sewage-disposal plants and street pavements. TT 3.1: P 3.1: RC 3.1: D 3.1. March 1923 to date Asst. Engr. with Nicholas S. Hill, Jr., Cons. Engr., New York City, on investigation, design and studies for water and sewer systems and plants, valuation of public utilities. TT 4.8: P 4.8: RC 4.8: D 4.8. TT 22.3: SP 2.1: P 20.2: RC 18.8: D 17.4. Refers to J. N. Brooks, H. H. Chase, E. W. Clarke, N. S. Hill, Jr., S. K. Knox, O'K. W. Myers, A. T. Ricketts.

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(5) **THOMPSON, JOSEPH TRUEMAN**, Assoc. M., 3405 University Pl., Baltimore, Md. (Elected May 19, 1924.) (Age 36. Born Baltimore, Md.) 1917 B. S. in Eng., The Johns Hopkins Univ. TT 4: SP 4. Oct. 1910 to Dec. 1911 Timekeeper and Rodman, Baltimore & Ohio R. R. Co. TT 1.2: SP 1.2. Jan. 1912 to Sept. 1913 Instrumentman and Computer, Roland Park Co., Baltimore, Md., field and office work, entailing considerable sanitary-sewer and storm-water drain design. TT 1.6: P 1.6: D 1. May 1917 to Dec. 1918 with U. S. Army, Pioneer Engrs., as 2d Lieut., Student Officer (nearly 4 months), 1st Lieut., Instructor, troop duty, 80th Div., United States and A. E. F. (nearly 1 year) and Capt., troop duty. TT 1.6: SP 0.5: P 1.1: RC 1.1. Jan. to Sept. 1919 Asst. Engr., Black & Decker Mfg. Co., Baltimore, on experiments and design in field of electric tools. TT 0.7: SP 0.7. Sept. 1919 to date with The Johns Hopkins Univ., 2 years, as Instructor, 1 year Associate in Civ. Eng. (equivalent to Asst. Prof.) and 5½ years Assoc. Prof. of Civ. Eng.; June to Sept. 1920 with Chas. T. Main, as Inspector on pile foundations for American Sugar Refining Co.'s refinery at Baltimore; June to Sept. of years 1921 to 1927 Highway Research Specialist, U. S. Bureau of Public Roads, Washington, D. C., experimental research on effect of impact forces upon highway surfaces and highway bridges, necessitating design and construction of special apparatus; Nov. 1924 to May 1926 also acted as Highway Research Specialist for Bureau in charge of co-operative research by the Bureau and Johns Hopkins Univ. TT 8.5: P 8.5: RC 6.5: D 2. TT 17.6: SP 8: P 9.6: RC 7.6: D 3.5. Refers to W. T. Ballard, F. K. Duncan, J. H. Gregory, C. E. Keefer, W. W. Pagon, S. L. Thomsen, C. J. Tilden, E. B. Whitman, A. Wolman.

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(5) **CROUT, PAUL GWYNN**, Jun., 2520 Gullford Ave., Baltimore, Md. (Elected Jan. 19, 1925.) (Age 29. Born Baltimore, Md.) Oct. 1915 to July 1918 Draftsman until Nov. 1917 for Herman F. Doeelman, Cons. Engr., Baltimore, Md., on structural plans, shop details and

estimates for reinforced concrete and steel, then with U. S. War Dept., Constr. Div., Washington, D. C., on structural plans, timber and steel construction. *TT 2.7: SP 2.7.* July 1918 to July 1919 in Service. June to Aug. 1921 Structural Designer and Checker for Dietrich Bros., Baltimore, on design of structural steel, checking steel details. *TT 0.2: P 0.2: RC 0.2: D 0.2.* July 1919 to June 1921 Structural Designer, and Aug. 1921 to date Structural Engr., with Herman F. Doeleman, on structural plans and details for reinforced concrete and steel construction, design of reinforced concrete, steel and timber structures and (since Aug. 1921) on design of steel, reinforced concrete and timber construction for mill and office buildings, apartment houses, foundries, schools, churches, swimming pools, etc. *TT 8.4: SP 0.5: P 7.9: RC 7.9: D 7.5.* *TT 11.3: SP 3.2: P 8.1: RC 8.1: D 7.7.* Refers to H. A. Brainerd, C. R. Burdette, H. F. Doeleman, W. C. Schnabel, J. T. Thompson, C. A. Weiller.

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(7) HAWLEY, JOHN BLACKSTOCK, Jr., Jun., 2317 Pleasant Ave., Minneapolis, Minn. (Elected Oct. 10, 1921.) (Age 28. Born Ft. Worth, Tex.) 1921 C. E., Cornell Univ. *TT 4: SP 4.* Aug. 1921 to Aug. 1923 Mgr., Anaconda Gravel Co., Ft. Worth, Tex. *TT 2: P 2: RC 2.* Sept. 1923 to Nov. 1924 with John B. Hawley, Ft. Worth, on engineering design for Sycamore Creek Dam (\$100 000), addition to Lake Worth Dam (\$100 000), Austin (Tex.) Filtration Plant (\$350 000) and pipe lines and pumping plants (\$200 000). *TT 1.2: P 1.2: D 1.2.* Nov. 1924 to Sept. 1925 developing his inventions. *TT 0.9: P 0.9: D 0.9.* Sept. 1925 to date Cons. Engr. for Cargill Elevator Co. and Northern Pump Co., also Vice-Pres., Hawley Inventions, Inc. *TT 2.5: P 2.5: D 2.5.* *TT 10.6: SP 4: P 6.6: RC 2: D 4.6.* Refers to J. H. Brillhart, E. E. Haskell, J. M. Howe, M. C. Nichols, E. N. Noyes, T. J. Palm, R. J. Potts.

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(7) HERRING, FRANCIS WILLIAM, Jun., Water Works Park, Detroit, Mich. (Elected June 6, 1921.) (Age 28. Born Baltimore, Md.) 1920 B. E., Johns Hopkins Univ. *TT 4: SP 4.* Feb. to May 1917 Draftsman, and Aug. to Oct. 1917 Rodman, Sewer Div., line and grade work and simple design for City of Baltimore, Md. *TT 0.4: SP 0.4.* May to Aug. 1917 Draftsman on plans for city development, and summer 1918 Transitman on line and grade for sewers, Dundalk Co., St. Helena, Md. *TT 0.2: SP 0.2.* Summer 1919 Inspector of sewer and water-line construction, Washington Suburban San. Dist., Hyattsville, Md. June 1920 to March 1923 Eng. Aid (3 months) and Jun. Civ. Engr., Sewer Div., Baltimore, being Chf. of Party preparing preliminary surveys for and furnishing construction lines to sewer and drain construction. *TT 2.7: P 2.7: RC 2.7.* March 1923 to Jan. 1925 Draftsman and Detailer with Dietrich Bros., Baltimore, designing details for reinforced concrete building construction. *TT 1.8: SP 1: P 0.8: D 0.1.* March 1925 to date with Dept. of water supply, Detroit, Mich., until Jan. 1927 as Senior Draftsman on plans for additional water supply for city, and since then Asst. Civ. Engr., being Engr. in charge of experimental filter plant on investigation of sedimentation, etc. *TT 2.8: SP 0.5: P 2.3: RC 1: D 1.5.* *TT 11.9: SP 6.1: P 5.8: RC 3.7: D 1.6.* Refers to T. Elde, G. H. Fenkell, J. H. Gregory, L. G. Lenhardt, A. B. Morrill, G. W. Stephens, Jr., F. H. Stephenson.

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(1) HOU, CHIA YUEN, Jun., Tangshan Univ., Tangshan, China. (Elected March 7, 1921.) (Age 31. Born Soochow, China.) 1918 A. T. E. C., Tangshan Eng. Coll. 1919 M. C. E., Cornell Univ. *TT 4: SP 4.* July 1920 to Dec. 1921 engineering-graduate work, McClintic Marshall Steel Constr. Co., drafting and later designing buildings and bridges. *TT 1.5: P 1.5: D 0.4.* Jan. 1923 to July 1927 with Kiao-Tsi Ry., Tsingtao, China, until Nov. 1924 as Asst. Engr., Dist. Engr.'s office, in charge of tracks and bridges, then Sec. Engr. in charge of maintenance and reconstruction of track and bridges. *TT 4.6: P 4.6: RC 4.6: D 4.6.* 1922 and Aug. 1927 to date teaching in structural (1 year) and hydraulic engineering, Tangshan Univ. *TT 1.4: P 1.4.* *TT 11.5: SP 4: P 7.5: RC 4.6: D 5.* Refers to F. A. Barnes, H. S. Jacoby, R. MacMinn, I. H. Pei, G. L. Taylor.

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(1) KIEHNLE WILLIAM ALBERT, Jun., 3606 Park Ave., New York City. (Elected March 12, 1923.) (Age 29. Born New York City.) 1921 B. S. in C. E., Coll. of Eng., N. Y. Univ. *TT 4: SP 4.* June to Sept. 1920 Supt. of building (bank) under construction, and June 1921 to date Secy., and at present member of firm, William V. Kiehnle Co., Bldrs., New York City. Feb. to June of years 1921-1924 (1 day each week) Asst. Instructor of Plan Reading and Estimating, New York Univ. *TT 6.7: SP 2.1: P 4.6: RC 3.4: D 0.7.* *TT 10.7: SP 2.1: P 4.6: RC 3.4: D 0.7.* Refers to A. Fellheimer, T. Heatley, C. Hellenaday, C. T. Schwarze, C. H. Snow.

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(1) MOWER, CHARLES MASON, Jr., Jun., 50 Church St., New York City. (Elected Feb. 25, 1924). (Age 28. Born Portland, Me.) 1923 B. S. E. C. E., Univ. of Mich. TT 4: SP 4. June 1923 to April 1925 Asst. Engr., Charles B. Hawley & Co., Inc., on hydro-electric project at Oakland, Md., computing and mapping property surveys, state highway relocation and construction, bridge construction. TT 1.8: SP 0.5: P 1.3: RC 0.5. April 1925 to date Asst. Engr., The Pitometer Co., Engrs., on water-waste surveys, at Jacksonville, Fla., Newton, N. J., Philadelphia, Pa., and Ithaca, N. Y.; trunk main investigations at Philadelphia and Pawtucket, R. I.; distribution studies, including design of improvements at Providence, R. I., Windsor, Ont., Worcester, Mass., and Ithaca. TT 2.8: P 2.8: RC 1.1. TT 8.6: SP 4.5: P 4.1: RC 1.6. Refers to E. D. Case, E. S. Cole, L. C. Hough, H. W. King, H. E. Riggs, E. K. Willson.

The Board of Direction will consider the applications in this list not less than thirty days after the date of its issue.